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SUBMISSION  
to  
LEGISLATIVE AND LAY COMMITTEE  
ON PREVENTIVE HEALTH SERVICES  
from  
DIVISION OF LOCAL HEALTH SERVICES  
JANUARY 1966

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SUBMISSION  
to the  
LEGISLATIVE AND LAY COMMITTEE  
TO STUDY  
PREVENTIVE HEALTH SERVICES  
IN ALBERTA

Prepared by  
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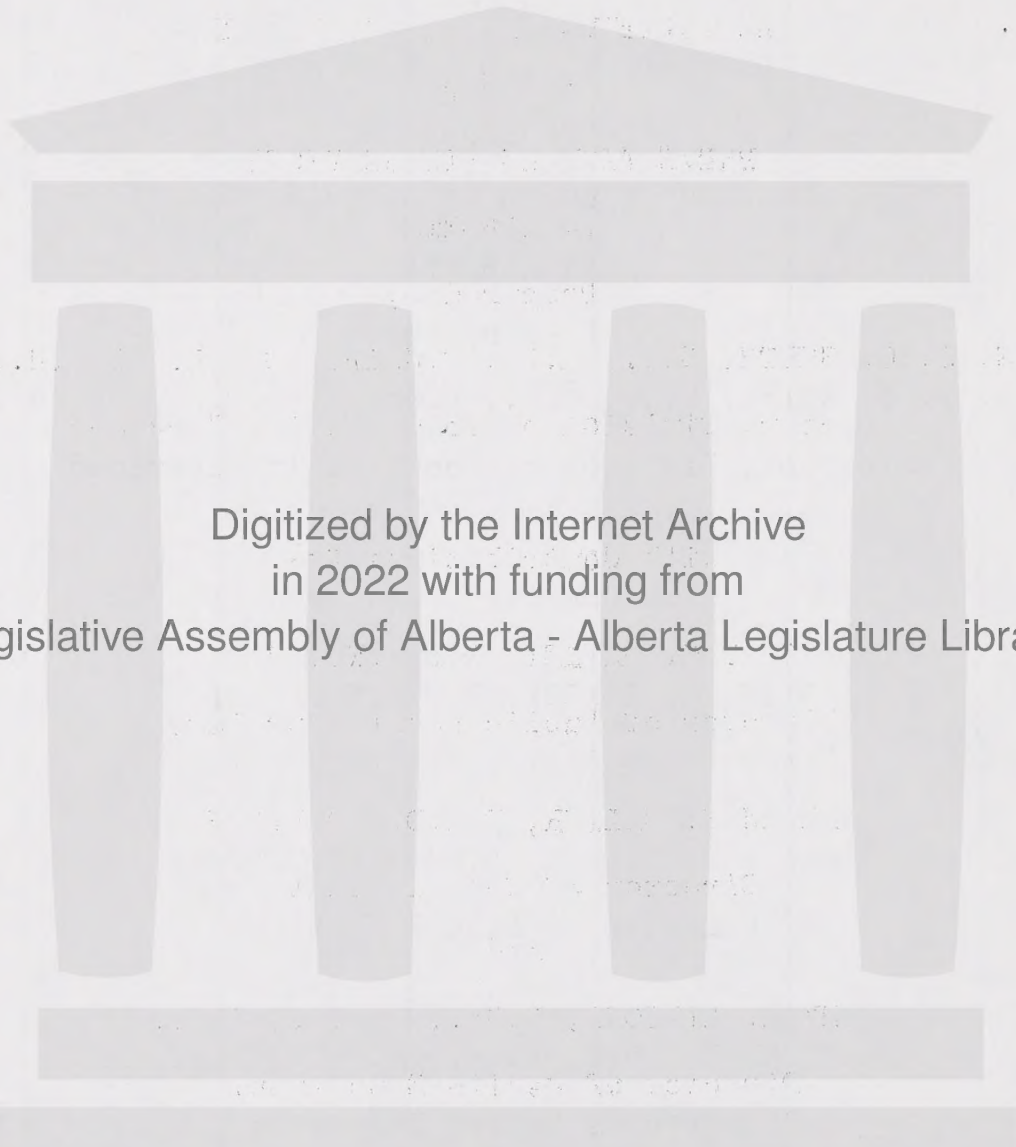
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1. INTRODUCTION.

The following submission from the Division of Local Health Services has been prepared by the Director of the Division. However, it was considered important that each director of a branch within the Division should have an opportunity for the independent expression of his or her own opinions. The submission from each of the branch directors who responded to the invitation is attached as a separate appendix to this presentation, and no attempt has been made to consolidate their viewpoints.

2. PRESENT ARRANGEMENTS FOR PROVISION OF PREVENTIVE HEALTH SERVICES IN ALBERTA.

2.1. Provincial Department of Public Health.

For a proper understanding of preventive health services in Alberta, it is necessary to have some knowledge of the organization of the Provincial Department of Public Health.

As indicated on the organizational chart in Figure 1, the Department consists of the Provincial Board of Health, the Division of General Administration, the Hospitals Division and 13 other divisions.

The Provincial Board of Health, under the chairmanship of the Deputy Minister of Health, is the body responsible for making regulations under The Public Health Act. Its membership includes the Provincial Bacteriologist (Director of the Division of Provincial Laboratories) and the Provincial Sanitary Engineer (Director of the Division of Sanitary Engineering), and its secretary is the Chief Public Health Inspector.

The Division of General Administration is directed by the Assistant Deputy Minister of Health, who is responsible to the Deputy Minister and through him to the Minister of Health.

The Hospitals Division has an executive director who is directly responsible to the Minister and to no one else.

Each of the other divisions has a director who is responsible for administrative matters to the Assistant Deputy Minister and for matters of a professional nature to the Deputy Minister.

Ten of the directors of divisions are physicians, but three of these are employed on a part-time basis only.

2.2. Division of Local Health Services.

Most of the Department's functions in relation to preventive health services are carried out through the Division of Local Health Services, and this division serves





as the Department's principal link with local boards of health. The division is composed of the following branches, with a director in charge of each and with a separate budgetary appropriation for each:

- (a) Communicable Diseases;
- (b) Health Units;
- (c) Public Health Nursing, including Maternal and Child Health;
- (d) Dental Health;
- (e) Health Education, including Nutrition Services;
- (f) Entomology and Vector Control;
- (g) Poison Control Service.

The Director of Local Health Services is personally responsible for the activities of both the Communicable Diseases branch and the Health Units branch. Similarly the Director of Entomology and Vector Control also supervises the Poison Control Service. The staff of the Public Health Nursing branch includes a nursing consultant in maternal and child health, while the staff of the Health Education branch includes a public health nutritionist.

## 2.3. Other Divisions Concerned with Preventive Health Services.

Several other divisions of the Department are concerned to a greater or less extent with particular aspects of preventive health services, and in some instances their field operations involve a close working relationship with city health departments and health units, as indicated in the following examples:

- (a) Division of Medical Services - Registry for Handicapped Children and Adults, rheumatic fever prophylaxis;
- (b) Division of Mental Health - guidance clinics;
- (c) Division of Tuberculosis Control - tuberculin testing, follow-up of tuberculosis cases and contacts;
- (d) Division of Social Hygiene - follow-up of venereal disease contacts;
- (e) Division of Public Health Laboratories - follow-up of virological investigations;
- (f) Division of Sanitary Engineering - public health inspection services;
- (g) Division of Industrial Health Services - control of pesticides.

## 2.4. Preventive Health Services at the Local Level.

With the exception of certain services for which the Provincial Department of Public Health undertakes complete responsibility (e.g. control of air and water pollution), preventive health services at the local level are provided in the following ways:

- (a) In Edmonton and Calgary, by their respective city health departments;





- (b) To 94.3 per cent of Alberta's population outside of Edmonton and Calgary, by 24 autonomous health units;
- (c) In certain isolated rural communities both within and outside of health units, by 13 municipal nursing services.

The areas of the Province remaining without organized preventive health services at the local level include the sparsely settled regions of northern and north-eastern Alberta and certain improvement districts or parts of improvement districts elsewhere, for which the Department has direct responsibility, and the Cardston area with a population slightly under 10,000. There are also a few municipalities (e.g. the Town of Devon and the Village of Cereal) that have elected not to join the health units which geographically encompass them.

## 2.5. City Health Departments.

City health departments were established in Edmonton and Calgary following the introduction of the first Public Health Act in 1907, and the services which they developed provided a pattern for the services which were subsequently established in smaller urban communities and rural areas with the introduction of health units.

Although responsible for the enforcement of Provincial Board of Health regulations within their boundaries, the city health departments of Edmonton and Calgary are under the jurisdiction of their respective city councils, and are administratively independent of the Provincial Department of Public Health. For this reason a detailed study of the services of city health departments was considered to be beyond the scope of this brief.

However, the city health departments of Edmonton and Calgary are not financially independent, and since 1960, under the authority of The Health Unit Act, each has received annually from the Department a grant for general health services at the per capita rate of 50 cents, and a grant for dental services at the per capita rate of 10 cents. The city health departments have also been included in the annual distribution of supplementary grants which have been authorized under The Health Unit Act since 1963.

## 2.6. Health Units.

Health units are the agencies upon which the Provincial Department of Public Health mainly depends for the implementation of preventive health services outside of the two principal cities, and with which the Division of Local Health Services is particularly concerned.

### 2.6.1. Health Units - Developmental History.

The first two health units in Alberta were established





in 1931 at Red Deer and High River with the assistance of a grant from the Kellogg Foundation, and with the object of bringing to rural areas the benefits of many preventive health services which had previously been available only to the residents of Edmonton and Calgary. Six more health units were formed during the ensuing 20 years.

With the introduction of The Health Unit Act in 1951 it became very much easier for municipalities to group together voluntarily and to provide themselves with preventive health services. Another 17 health units were formed during the next ten years, but two of these (Forest Lawn and Jasper Place) were subsequently disestablished by reason of amalgamation. One more health unit was established in 1965, bringing the total to 24.

#### 2.6.2. Health Units - Organisation and Population Characteristics.

A health unit is established by Order in Council in response to resolutions from the councils of those municipalities which wish to be included. For purposes of local representation each health unit is divided into wards, and these are designated by the Order in Council.

The organization of health units is summarized in Table 1, which shows for each one the location of the headquarters, the population served, the approximate area and the population density. While considerable variations in population density are inevitable, it will be noted that the piecemeal development of health units has resulted in a wide range of population size.

The area covered by each health unit is indicated in Map 1. The areas of the Province which are not served by health units will also be apparent from this map.

#### 2.6.3. Health Units - Administration.

Each health unit is administered by a board composed of one councillor from each ward. Where a ward includes more than one municipality, it is the privilege of the council of the municipality having the greatest population within the ward to appoint a councillor to represent the ward on the health unit board.

Each health unit board is an autonomous body responsible for appointing its own staff, for setting its own budget, and for certain other duties which are designated in The Health Unit Act.

The board's chief executive officer is the medical officer of health, who in the intervals between board meetings exercises the authority and performs the duties of the board with respect to the administration of the health unit. However, his authority does not extend to the control of expenditure, for which the secretary-treasurer is at all times responsible.





2.6.4.

Health Units - Operating Costs and Financing.

As a contribution towards operating costs, each health unit (with the exception of those in Banff and Jasper National Parks) receives annually from the Department:

- (a) A grant for general health services at the per capita rate of \$1.45 less one cent for each thousand of population served, subject to a minimum of 95 cents;
- (b) An additional grant for general health services at the per capita rate of five cents for each person or part of a person by which the population density falls short of five per square mile;
- (c) A grant for dental services, where these are provided, equal to 20 per cent of the total grant for general health services;
- (d) A further grant for dental services, where the employment of dental auxiliaries is authorized, up to 10 per cent of the total grant for general health services.

In order to qualify for each of these grants, the board must requisition the contributing municipalities at not less than two thirds of the per capita rate paid by the Department.

Health units in the national parks receive annually from the Department a grant for general health services at the per capita rate of \$1.25, and a grant for dental services at the per capita rate of 25 cents. Since the services of a part-time medical officer of health and a full-time public health inspector in each of these health units are paid for entirely by the Federal Government, the boards are not required to requisition their respective municipalities.

The basic grant formula for general health services was based upon the observation that the per capita cost of operation tends to diminish as the size of population served increases, but it did not allow for the general rise in prices and in cost of services which has taken place since its introduction in 1958. However, an amendment to The Health Unit Act in 1963 authorized the Minister to give financial assistance to a health unit which, through circumstances beyond its control, is faced with expenses that place too great a burden on its financial resources or those of a contributing council, and this authority has been used ever since for the annual distribution of supplementary grants.

It is anticipated that the supplementary grant to health units and city health departments for the fiscal year ending 31st March 1966 will be sufficient to bring the standard grant for general health services (exclusive of any additional grant for low population density) up to the level provided by the following formula:





- 9 -
- (a) Where the population is less than 20,000, at the per capita rate of \$2.00 less two cents for each thousand of population;
  - (b) Where the population is 20,000 or more but less than 40,000, at the per capita rate of \$1.60 less one and one half cents for each thousand of population in excess of 20,000;
  - (c) Where the population is 40,000 or more but less than 60,000, at the per capita rate of \$1.30 less one cent for each thousand of population in excess of 40,000;
  - (d) Where the population is 60,000 or more but less than 140,000, at the per capita rate of \$1.00 less one half cent for each thousand of population in excess of 60,000;
  - (e) Where the population is more than 140,000, at the per capita rate of 70 cents.

It is also anticipated that there will be a supplementary grant for dental services, where such a service is established and where payment of the full amount of the standard grant has already been justified, payable as follows:

- (a) To health units employing one or more dental auxiliaries in addition to a full-time dental officer, in an amount equal to 30 per cent of the supplementary grant for general health services;
- (b) To other health units providing dental services and to city health departments, in an amount equal to 20 per cent of the supplementary grant for general health services.

How far these supplementary grants will assist in the defrayment of operating costs will not be known until after the end of the current fiscal year, but the Division of Local Health Services would be pleased upon request to supply the Committee with information from previous years showing the relationship of grants and the contributions of participating councils to the audited costs of operation.

#### 2.6.5. Health Units - Accommodation.

The Health Unit Act contains no provision for the ownership of property by health unit boards, with the result that all accommodation must be rented.

With regard to rental arrangements, The Health Unit Act states that a board may not enter into a lease of office accommodation for a term of more than three years unless the lease provides that it may be terminated at any time by either party upon not more than one year's notice to the other.

#### 2.6.6. Health Units - Scope and Levels of Service.

The services offered by health units generally include the following:



- (a) Communicable disease control - immunization, detection and control of sources of infection, advice regarding isolation and quarantine, consultation service to physicians;
- (b) Distribution of biologicals - to local physicians for the benefit of individuals who prefer to be immunized privately;
- (c) Tuberculosis control - tuberculin testing, assistance with arrangements for mobile mass radiography surveys, supervision of cases, suspected cases and contacts;
- (d) Sanitation - supervision and periodic testing of water and milk supplies, inspection of abattoirs, food stores, bake shops and restaurants, disposal of garbage and sewage;
- (e) Prenatal classes - for expectant mothers who have permission from their own physicians to attend;
- (f) Postnatal services - home visits to newborns, child health conferences (well baby clinics);
- (g) School health services - physical examination of children entering grade 1 and of referrals in other grades, audiometric screening, teacher-nurse conferences;
- (h) Mental health - preparatory and liaison work in connection with guidance clinic referrals;
- (i) Health education - routine counselling, home and school meetings, special groups;
- (j) Dental services - inspection and cleaning of teeth, topical application of fluoride, teaching of dental care, emergency treatment.

Inasmuch as it is among the duties of the board to draft a schedule of services to be provided by the health unit and to appoint such staff as may be required, it follows that it is the privilege of the board to determine not only the scope of services to be made available, but also in respect of each service the level to be attained.

#### 2.6.7. Health Units - Staffing.

The staff of a health unit normally includes the following:

- (a) Medical officer of health - a full-time appointment except in four health units (Barons-Eureka, County of Warner, Banff National Park and Jasper National Park); all are registered physicians, and most have taken one year's postgraduate study leading to the Diploma in Public Health;
- (b) Senior nurse - nearly all have taken one year's postgraduate study leading to the Diploma in Public Health Nursing, and some have taken an additional year leading to the B.Sc.;
- (c) Staff nurses - approximately one to each 5,000 of population; slightly more than half have taken postgraduate training leading to the D.P.H.N. or B.Sc.;





- (d) Dental officer - a full-time appointment in eight health units, and a total of 17 part-time appointments in nine other health units; only two full-time dental officers have taken one year's post-graduate study leading to the Diploma in Dental Public Health;
- (e) Dental auxiliaries - graduates of the recently established two-year course in dental hygiene at the University of Alberta;
- (f) Dental assistants - either trained on the job or graduates of the recently established one-year course at the Northern Alberta Institute of Technology;
- (g) Public health inspectors - approximately one to each 20,000 of population, high school graduates trained on the job while enrolled in a ten-month correspondence course conducted by the Canadian Public Health Association and leading to the Certificate in Public Health Inspection;
- (h) Stenographer-technicians - women with clerical experience trained on the job to enter information on health records and to clean and sterilize equipment;
- (i) Secretary-Treasurer - a part-time appointment.

#### 2.6.8. Health Units - Supervision.

The staff of the Division of Local Health Services, and of certain other divisions of the Department, are available in a consultant capacity to advise medical officers of health and the senior members of health unit staffs, but they act only upon invitation and they have no supervisory function.

It follows that the only supervision received by the personnel of a health unit is that which is exercised by the medical officer of health, or by a senior member of the staff to whom this responsibility is delegated.

#### 2.6.9. Health Units - Relationship to the Department.

The responsibilities of the Provincial Department of Public Health towards health units may be summarized as:

- (a) Financial - payment of grants and examination of expenditures to ensure compliance with The Health Unit Act;
- (b) Advisory - to health unit boards and medical officers of health in relation to administrative problems;
- (c) Consultant - to medical officers of health and the senior members of health unit staffs in relation to technical problems within the competence of the professional staff of the Division of Local Health Services and of certain other divisions (Medical Services, Mental Health, Tuberculosis Control, Social Hygiene, Public Health Laboratories, Sanitary Engineering, Industrial Health Services).





2.7. Municipal Nursing Services.

Municipal nursing services are established under the authority of The Nursing Service Act to provide both a preventive health service and a minor and emergency treatment service to isolated rural communities which are remote from medical care.

There are presently 13 municipal nursing services, all north of Township 60. Eight of these are located in health unit areas, the other five outside of health units.

Where a municipal nursing service is located within the boundaries of a health unit, the preventive program conforms to that of the health unit and the preventive health services are coordinated by the medical officer of health.

The preventive program of the municipal nursing services which are located outside of health units, and the treatment programs of all municipal nursing services, are supervised by the Director of Public Health Nursing.

3. PROBLEMS RELATED TO THE PROVISION OF PREVENTIVE HEALTH SERVICES IN ALBERTA.

3.1. Provincial Department of Public Health.

The multiplicity of divisions in the Provincial Department of Public Health has led to a fragmentation of services which increases not only the difficulties of coordination but also the risk of overlap and duplication.

In particular, it is questionable whether a service which does not justify the employment of a full-time director should be rated as a separate division.

The inclusion of the Department's only statistical facilities (apart from those of the Division of Vital Statistics) within the Hospitals Division makes it difficult for other divisions to obtain these services when they are needed.

3.2. Division of Local Health Services.

There is a need for at least one more physician in the Division of Local Health Services:

- (a) To share the ever increasing volume of work which requires a medical opinion and which cannot at present be delegated;
- (b) To provide a better and more constantly available consultant service to health unit boards and medical officers of health;
- (c) To assist medical officers of health in the evaluation of current programs and the establishment of new ones;



- (d) To relieve or supervise health units which are temporarily without medical officers of health.

There is also a need for more nursing consultants in the Division of Local Health Services:

- (a) To provide the supervision which it is believed the health units could use;
- (b) To assist with in-service training programs in health units.

It is questioned whether there is any longer a need for a separate branch devoted to Entomology and Vector Control, for it appears that any necessary field research could be undertaken by the Department of Entomology at the University of Alberta, and that the other functions of this branch could be adequately fulfilled by the Communicable Diseases branch.

### 3.3. Other Divisions Concerned with Preventive Health Services.

The Provincial Laboratory of Public Health is inundated with an enormous volume of routine work which could be handled just as expertly, and perhaps more expeditiously, by smaller laboratories at regional level.

The centralized service now in operation, shared by only one branch laboratory in Calgary, limits the opportunity of the Provincial Laboratory of Public Health to function effectively as a reference laboratory.

### 3.4. Health Units.

The problems associated with health units are many and complex, and it is possible that some of those which follow could with equal justification be classified under other headings.

#### 3.4.1. Health Units - Organization and Population Characteristics.

Some areas of the Province which have no organized preventive health services at the local level, particularly the sparsely settled regions of northern and north-eastern Alberta, are known to be reservoirs of infection for tuberculosis and venereal diseases, and it is impossible without an adequate field staff to provide these areas with even the most basic of the services which are normally offered by health units.

There are also some settled areas of the Province which have declined to participate in health units, and experience has shown that it is frequently difficult or impossible to obtain immunization records from these areas for families which move to other districts.





Since it has been repeatedly demonstrated that preventive health services save much more money than they cost, a municipality which has no preventive health program may very well be adding unnecessarily to the cost of treatment services.

Piecemeal development has resulted in the establishment of many health units whose populations are too small to enable them to operate economically on an independent basis.

3.4.2. Health Units - Administration.

While most health unit boards are extremely cooperative, experience has shown that there are some which have used their autonomous status to resist recommendations from the Department, even when their actions have been contrary to The Health Unit Act.

3.4.3. Health Units - Operating Costs and Financing.

Some health unit boards, quite understandably, have been unwilling to extend their services to neighbouring municipalities whose inclusion might increase the per capita rate of the local requisition.

The per capita system of local requisitioning frequently places the heaviest burden on those municipalities which, although needing preventive health services the most, are able to afford them the least.

This problem of municipalities whose residents largely belong to the lower economic levels of our society is only partially solved by the payment of supplementary grants.

3.4.4. Health Units - Accommodation.

The restriction on leases has made it difficult for some health unit boards to find suitable office accommodation at an economic rental.

The inability to own property has in some cases obliged a health unit board to pay more over the years to rent a building than it would have cost to purchase and maintain it.

3.4.5. Health Units - Scope and Levels of Service.

There is considerable lack of uniformity in the scope of services offered by health units, to the extent that some health units have no preventive dental program of any kind.

Some health units have shown a reluctance to implement new services, as exemplified by the refusal of one medical officer of health to recognize the routine screening of infants for phenylketonuria as a health unit responsibility.





There is also a marked variation in the levels of service provided by health units, as indicated by a recent survey of school health services which revealed that every health unit has a different program, and that some health units do not invite parents to be present when children are examined.

3.4.6. Health Units - Staffing.

It is believed that many of the medical officers of health could, if given the opportunity, serve considerably larger populations than those of the health units which presently employ them.

It is difficult to recruit medical officers of health, and when its one and only medical officer leaves, a health unit is likely to find itself without medical direction for several months at a time.

A few health unit boards, in contravention of The Health Unit Act, have neglected or refused to appoint a senior nurse, and it is questioned whether a medical officer of health who undertakes direct responsibility for the supervision of nursing staff is making the best use of his skills.

The smaller health units are very severely handicapped if they are short of even one or two nurses.

Some health unit boards appear content to employ nurses without postgraduate training in public health, and without requiring them to take this training within a reasonable period of time.

It is believed that many of the full-time dental officers could, by the more extensive use of dental auxiliaries and dental assistants, serve considerably larger populations than those of the health units which presently employ them.

Since a student public health inspector cannot be enrolled in the correspondence course which he requires unless there is a medical officer of health, in addition to a qualified public health inspector, available to give him practical training, a health unit which loses its one and only medical officer may be at a double disadvantage if it needs to augment its public health inspection staff.

Under the present organizational pattern of health units there are no promotion opportunities except for staff nurses and occasionally for public health inspectors.

Certain health units from time to time have demonstrated the value of other categories of personnel such as educational psychologists, social workers and speech therapists, but these categories have never been recognized for pensionable employment in health units.



The activities of health units in the field of health education are hampered by the availability of only one health educator for the whole Province.

It is usually difficult for part-time secretary-treasurers to give to health unit business the prompt attention which is sometimes necessary.

### 3.4.7. Health Units - Supervision.

Under the present organizational pattern of health units there are no opportunities for medical officers to work under supervision in order to meet the training requirements of the Royal College of Physicians and Surgeons of Canada for specialist certification.

There is a lack of senior nurses in health units with advanced postgraduate training in administration and supervision who could qualify to fill the need for nursing supervisors.

It is known that dental auxiliaries are not receiving adequate supervision in those health units which employ part-time rather than full-time dental officers.

It is believed that some of the foregoing problems are attributable to the fact that the Department has no supervisory authority in relation to health units.

### 3.5. Municipal Nursing Services.

There is an inherent risk of conflict in the arrangement whereby a municipal nurse located within the boundaries of a health unit is responsible to the Department, but must also conform to the preventive health program of the health unit.

Because they must live in isolated communities municipal nurses are difficult to recruit, and a community which loses its municipal nurse may have to wait several months for a replacement.

## 4. NEED FOR COORDINATION AND INTEGRATION WITH HOSPITAL AND OTHER HEALTH SERVICES, PREVENTIVE SERVICES AND SPECIAL EDUCATION SERVICES IN ALBERTA.

### 4.1. Hospital and Other Health Services.

There is a very obvious need for the coordination of preventive health services with hospital and other health services, and possibly even for their integration. The medical officer of health should look upon himself as the custodian of the health of his community, and in his capacity he has a duty to be interested not only in preventive health programs, but in the whole spectrum of health services. Moreover, by virtue of his administrative training and his tenure of a public appointment, he is





probably in a more favourable position than any other person to serve as the principal coordinator. But only by demonstrating a genuine interest in the problems of his professional colleagues, and by winning their confidence, can he hope to fulfil this role.

The agency which the medical officer of health directs is already organized to carry services to the community, and has an unrivalled potential for growth and development in the follow-up of patients discharged from hospital, in the field of rehabilitation, in the area of home nursing care and in the promotion of mass screening clinics.

#### 4.2. Welfare Services.

The need for the coordination of preventive health services with welfare services has been expressed on many occasions, but the need for such coordination was never greater than at this moment, when it appears that the Department of Public Welfare is planning the introduction of legislation to establish preventive welfare services. The proposed program makes provision for certain services which are intimately related to the health field, if indeed they do not actually encroach upon it.

The coordination of preventive health services with welfare services is both desirable and possible, not only at the provincial level but also at the local level. However, it is probable that the opportunity for integration was lost once and for all when Public Health and Public Welfare became two separate departments. A change such as this would be difficult to reverse.

#### 4.3. Special Education Services.

Some attempts have already been made to coordinate preventive health services with special education services; a most notable contribution in this direction was the establishment of the Registry for Handicapped Children and Adults. It is one of the tasks of preventive health services to discover the children who are in need of special education services; the Registry for Handicapped Children and Adults can help to ensure that they are referred to the proper quarter. But case finding and referral are only a beginning, and coordination will not be complete until the facilities available for special education are adequate to meet the needs.

It is also one of the tasks of preventive health services to ensure that the programs which are normally provided to school children are made available to whatever extent is necessary to the handicapped children in special schools or classes. This responsibility may involve a disproportionate amount of home visiting and parental counseling.



Inasmuch as it is one of the aims of special education services to enable a handicapped child to return as soon as possible to the regular educational system, it is questionable whether the integration of preventive health services with special education services would be particularly desirable.

5. RECOMMENDATIONS.

5.1. Recommendations for Solving the Problems Related to the Provision of Preventive Health Services in Alberta.

5.1.1. Provincial Department of Public Health.

It is recommended:

- (a) That the Provincial Department of Public Health be reorganized to form four functional bureaus, namely a Bureau of General Administration, a Bureau of Hospitals, a Bureau of Medical Treatment Services and a Bureau of Preventive Health Services, as indicated on the organizational chart in Figure 2.
- (b) That the Statistics branch of the Hospitals Division be relocated in the Bureau of General Administration.
- (c) That the authority of the Department be extended to include a supervisory function in relation to the proposed health regions.

5.1.2. Division of Local Health Services.

It is recommended:

- (a) That the staff of the Division of Local Health Services be increased by the addition of at least one physician and three nursing consultants.
- (b) That the Entomology and Vector Control branch of the Division of Local Health Services be discontinued.

5.1.3. Other Divisions Concerned with Preventive Health Services.

It is recommended:

- (a) That the routine work of the Provincial Laboratory of Public Health be undertaken by a regional laboratory located with the headquarters of each proposed health region.
- (b) That the Provincial Laboratory of Public Health be encouraged and enabled to function as a reference laboratory.

5.1.4. Health Units.

It is recommended:





- (a) That in view of the need for preventive health services in remote areas, and of the difficulty in providing such services, every part of the Province be included in the proposed organization of health regions.
- (b) That inclusion in one of the proposed health regions be obligatory for every municipality.
- (c) That in order to achieve more economic operation, better utilization of staff potential and greater flexibility in times of staff shortage, and in order to provide more effective supervision and better opportunities for training and promotion, the boundaries of existing health units be rearranged to form a smaller number of enlarged health regions, and that these for convenience be divided into health districts, as indicated in Table 2.
- (d) That existing health unit boards be replaced by a single regional board of health for each health region, whose function would be to supervise and administer the health region in partnership with the Department.
- (e) That in order to distribute more equitably the operating costs of preventive health services, municipalities be requisitioned on a fixed mill rate basis, standard throughout the Province, rather than on a per capita basis.
- (f) That the balance of the operating costs of preventive health services be contributed by the Department in accordance with an approved budget which would recognize the particular needs of each health region.
- (g) That regional boards of health be permitted to own property.
- (h) That a uniform range of preventive health services be established throughout the Province, and that dental services be included as a standard feature of the preventive health program in every health region.
- (i) That minimum levels of service be set by the Department and maintained through regular supervision.
- (j) That it be obligatory for every health region to implement all new programs, with the exception of special local programs, which may from time to time be introduced by the Department.
- (k) That a regional medical officer of health be appointed for each health region, and that a district medical officer of health be appointed for each health district with the exception of that which is served by the regional headquarters.
- (l) That an assistant medical officer of health be appointed to the headquarters of each health region, and that preference for this appointment be given to a physician who is training for specialist certification.



- (m) That a regional nursing supervisor be appointed for each health region, and that a senior nurse be appointed for each health district including that which is served by the regional headquarters.
- (n) That a full-time dental officer be appointed for each health region.
- (o) That a health educator, an educational psychologist and a speech therapist be appointed for each health region, and that these staff categories be recognized for pensionable employment.
- (p) That a social worker be appointed for each health district including that which is served by the regional headquarters, and that this staff category be recognized for pensionable employment.
- (q) That part-time secretary-treasurers be replaced by the appointment of a full-time administrative officer for each health region.
- (r) That nurses without postgraduate training in public health be required to take this training within a reasonable time, and that nurses appointed as regional nursing supervisors be required to take advance postgraduate training in administration and supervision.

5.1.5. Municipal Nursing Services.

It is recommended:

- (a) That municipal nursing services be discontinued as separate services and integrated into the proposed health regions.
- (b) That the minor and emergency treatment responsibilities of municipal nurses be undertaken by all nurses employed by health regions when located in or visiting communities which are remote from medical care.

5.2. Recommendations for Meeting the Need for Coordination and Integration of Preventive Health Services in Alberta with Hospital and Other Health Services, Welfare Services and Special Education Services.

5.2.1. Hospital and Other Health Services.

It is recommended:

- (a) That regional and district medical officers of health be encouraged to apply for appointment to the courtesy staff of the hospitals within their jurisdiction.
- (b) That regional and district medical officers of health be encouraged to attend meetings of local medical societies.





- (c) That regional and district medical officers of health be encouraged to use their own initiative in developing with the collaboration of their professional colleagues local unscheduled programs for the improvement of community health.

5.2.2. Welfare Services.

It is recommended:

- (a) That the areas served by welfare officers be made coterminous with health regions and health districts.
- (b) That welfare officers be located in the same offices as health regions and health districts.
- (c) That welfare officers be invited to attend staff meetings in the health region or health district offices in which they are located.

5.2.3. Special Education Services.

It is recommended:

- (a) That preventive health services be made available to handicapped children in special schools or classes in the same manner as to other school children.
- (b) That in the allocation of staff to provide preventive health services to handicapped children in special schools or classes allowances be made for the additional load of home visiting and parental counselling which may be required.

6. Acknowledgements.

The staff of the Division of Local Health Services wishes to express its appreciation to the Legislative and Lay Committee to Study Preventive Health Services in Alberta for the opportunity to present its views.



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graph TD
    MoH[Minister of Health] --> DMin[Deputy Minister of Health]
    MoH --> ADMin[Assistant Deputy Minister  
General Administration | Accounting | Purchasing | Personnel]
    ADMin --> ED[Executive Director]
    DMin --> PBoH[Provincial Board of Health]
    PBoH --> SanEng[Sanitary Engineering]
    PBoH --> IndHealth[Industrial Health]
    PBoH --> LocalHealth[Local Health Services]
    PBoH --> SocHyg[Social Hygiene]
    PBoH --> TubCont[Tuberculosis Control]
    PBoH --> VitalStats[Vital Statistics]
    PBoH --> MentalHealth[Mental Health]
    PBoH --> CancerServ[Cancer Services]
    PBoH --> ArthritisServ[Arthritis Services]
    PBoH --> MedicalServ[Medical Services]
    PBoH --> CerebralPalsy[Cerebral Palsy Services]
    PBoH --> HospDiv[Hospitals* Division]
    ED --> SanEng
    ED --> IndHealth
    ED --> LocalHealth
    ED --> SocHyg
    ED --> TubCont
    ED --> VitalStats
    ED --> MentalHealth
    ED --> CancerServ
    ED --> ArthritisServ
    ED --> MedicalServ
    ED --> CerebralPalsy
    ED --> HospDiv
    ED --> Admin[Administration]
    ED --> Grants[Grants]
    ED --> Statistics[Statistics]
    SanEng --> SanIns[Sanitation Inspection]
    SanEng --> PlumIns[Plumbing Inspection]
    SanEng --> MuniEng[Municipal Engineering]
    SanEng --> AirWater[Air and Water Pollution]
    SanEng --> PollLab[Pollution Control Lab.]
    IndHealth --> SanIns
    IndHealth --> PlumIns
    IndHealth --> MuniEng
    IndHealth --> AirWater
    IndHealth --> PollLab
    LocalHealth --> SanIns
    LocalHealth --> PlumIns
    LocalHealth --> MuniEng
    LocalHealth --> AirWater
    LocalHealth --> PollLab
    LocalHealth --> Sanatoria[Sanatoria]
    LocalHealth --> ClinSur[Clinics and Surveys]
    SocHyg --> SanIns
    SocHyg --> PlumIns
    SocHyg --> MuniEng
    SocHyg --> AirWater
    SocHyg --> PollLab
    SocHyg --> ChildMat[Child and Maternal Health]
    SocHyg --> DentalServ[Dental Services]
    SocHyg --> Entomology[Entomology]
    SocHyg --> Nutrition[Nutrition Services]
    SocHyg --> HealthEdu[Health Education]
    SocHyg --> MentalNurs[Mental Nursing Services]
    SocHyg --> HealthRls[Health Rules]
    SocHyg --> CommDis[Communicable Diseases]
    MentalHealth --> ActiveMental[Active Mental Hospitals—  
(Over) Ponoka]
    MentalHealth --> ChronicInst[Chronic Institutions—  
Camrose Raymond]
    MentalHealth --> DefInst[Mental Defective Institutions  
Red Deer]
    HospDiv --> HospInst[Hospital Insurance]
    HospDiv --> AdminHosp[Administration]
    HospDiv --> ConstGr[Construction Grants]
    HospDiv --> StatisticsH[Statistics]
    Admin --> Multiple[Multiple Handicapped]
    Admin --> Ambulance[Ambulance]
    Admin --> EmergAir[Emergency Air]
    Admin --> Alberta[Alberta Medical Plan]
    Admin --> EmergHealth[Emergency Health Services]
    Admin --> PolioTreat[Polio Treatment]
    Admin --> LabRay[Laboratory and X-Ray Schools]
    Admin --> NursAids[Nursing Aides Schools]
    Admin --> Pensioner[Pensioner Services]
  
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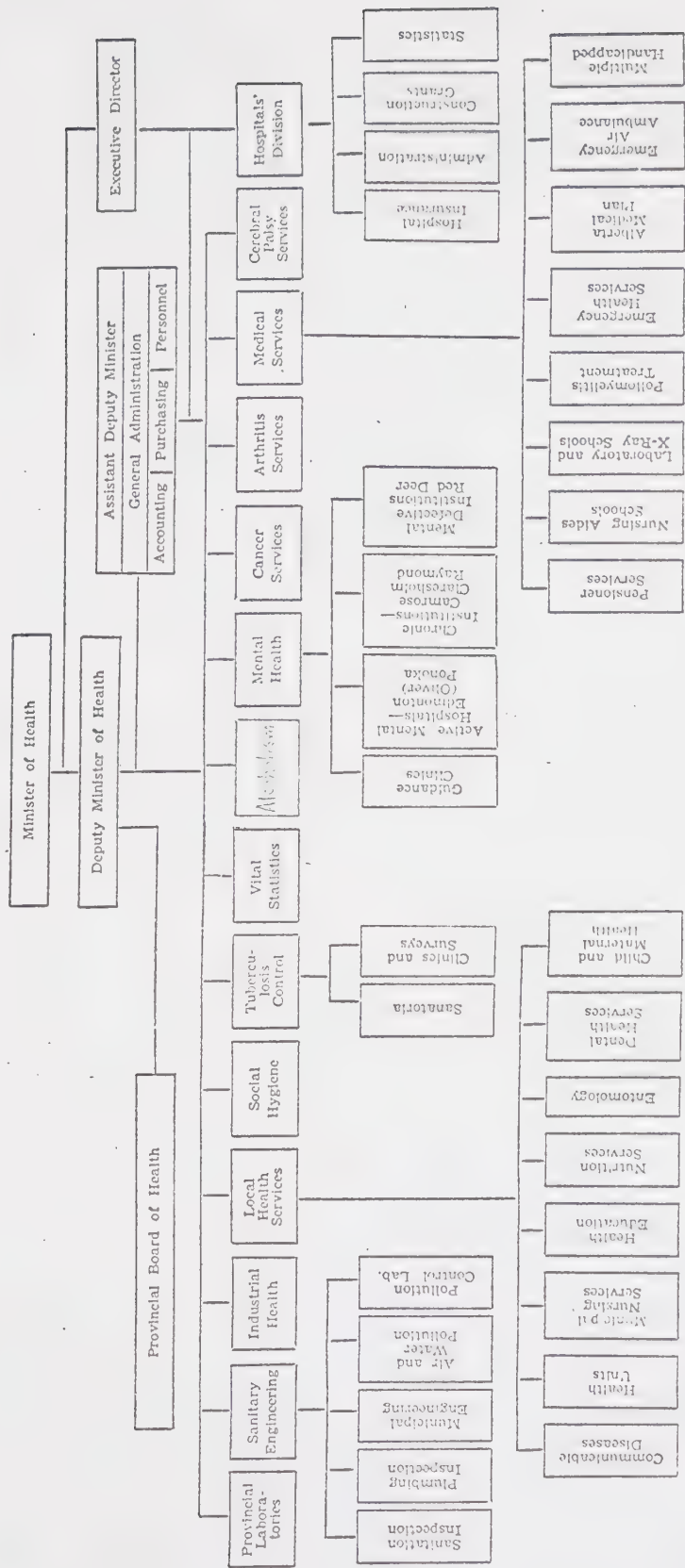






FIGURE 2 - PROPOSED ORGANIZATION OF PROVINCIAL DEPARTMENT OF PUBLIC HEALTH

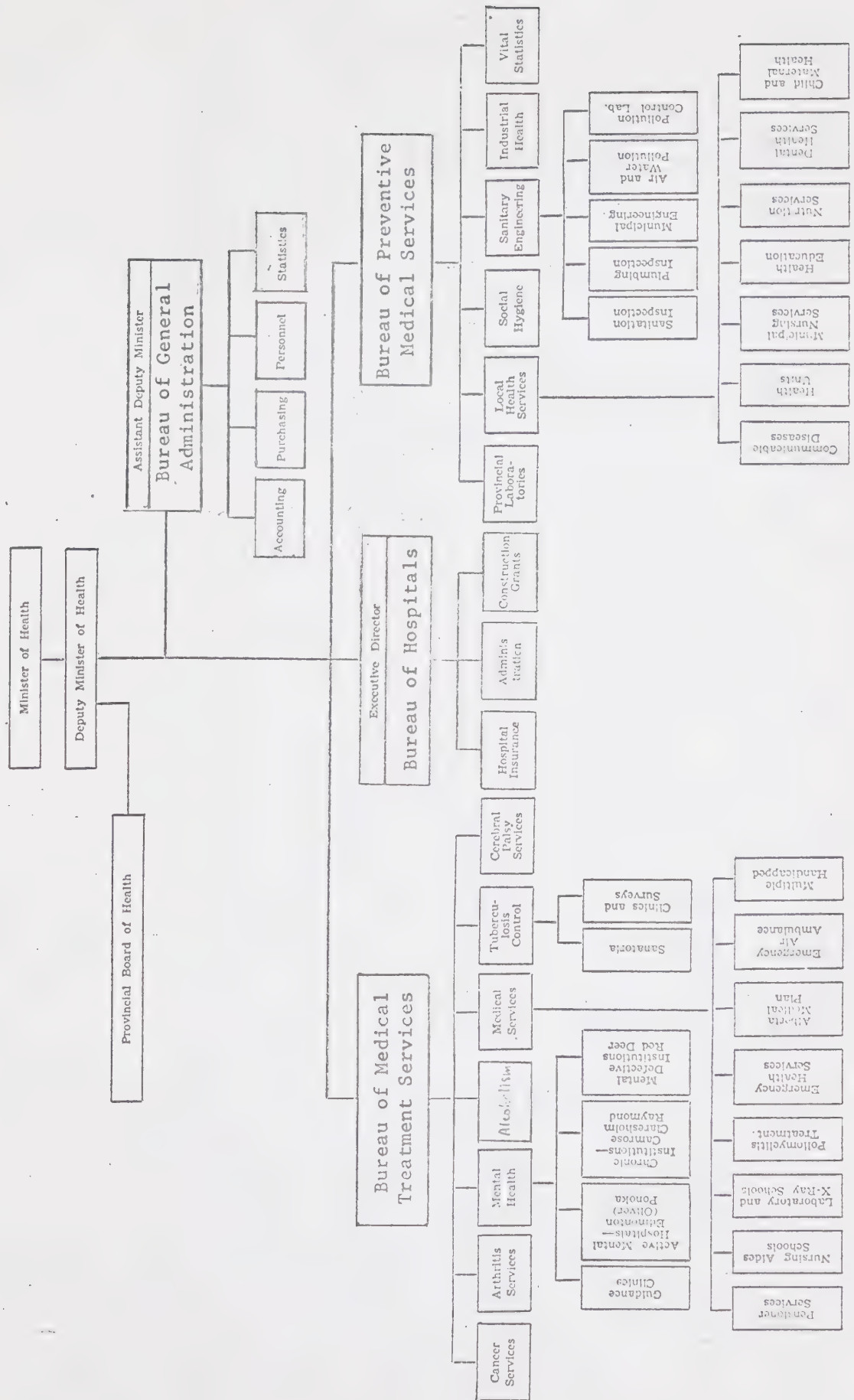




TABLE 1 - PRESENT ORGANIZATION AND POPULATION DISTRIBUTION OF HEALTH UNITS

Health Unit	Headquarters	1955 Population	Area in Square Miles	Population	
				Density	
Jasper National Park	Jasper	2,992	4,200		0.55
Banff National Park	Banff	4,101	2,500		1.12
County of Warner	Warner	1,570	1,600		5.98
High Country	Hanna	14,552	8,800		1.69
Athabasca	Athabasca	22,295	8,500		2.62
Chinook	Fort Macleod	22,800	4,000		5.70
Rocky Hills	High River	23,552	3,800		6.20
Edson	Edson	23,072	11,000		2.17
Stony Plain-Lacombe	Stony Plain	25,503	4,300		5.95
Verona-Lacombe	Verona	25,446	3,000		9.48
Drumheller	Drumheller	20,000	4,200		7.05
Minburn-Vermilion	Vermilion	20,000	5,000		5.94
Verona	Verona	20,000	3,100		9.64
Vegreville	Vegreville	31,034	3,700		8.20
Leduc-Lethbridge	Leduc	31,050	1,900		16.76
Mountain View	Mountain View	32,311	4,300		7.51
Peace River	Peace River	34,114	23,300		1.32
Grande Prairie	Grande Prairie	35,827	18,400		1.95
City of Lethbridge	Lethbridge	36,805	12		3057
North Eastern Alberta	St. Paul	39,326	6,000		6.55
Medicine Hat	Medicine Hat	49,940	9,300		5.36
Alberta East Central	Stettler	51,490	7,300		7.05
Sturgeon	St. Albert	54,536	3,700		14.74
Red Deer	Red Deer	59,205	4,500		15.38





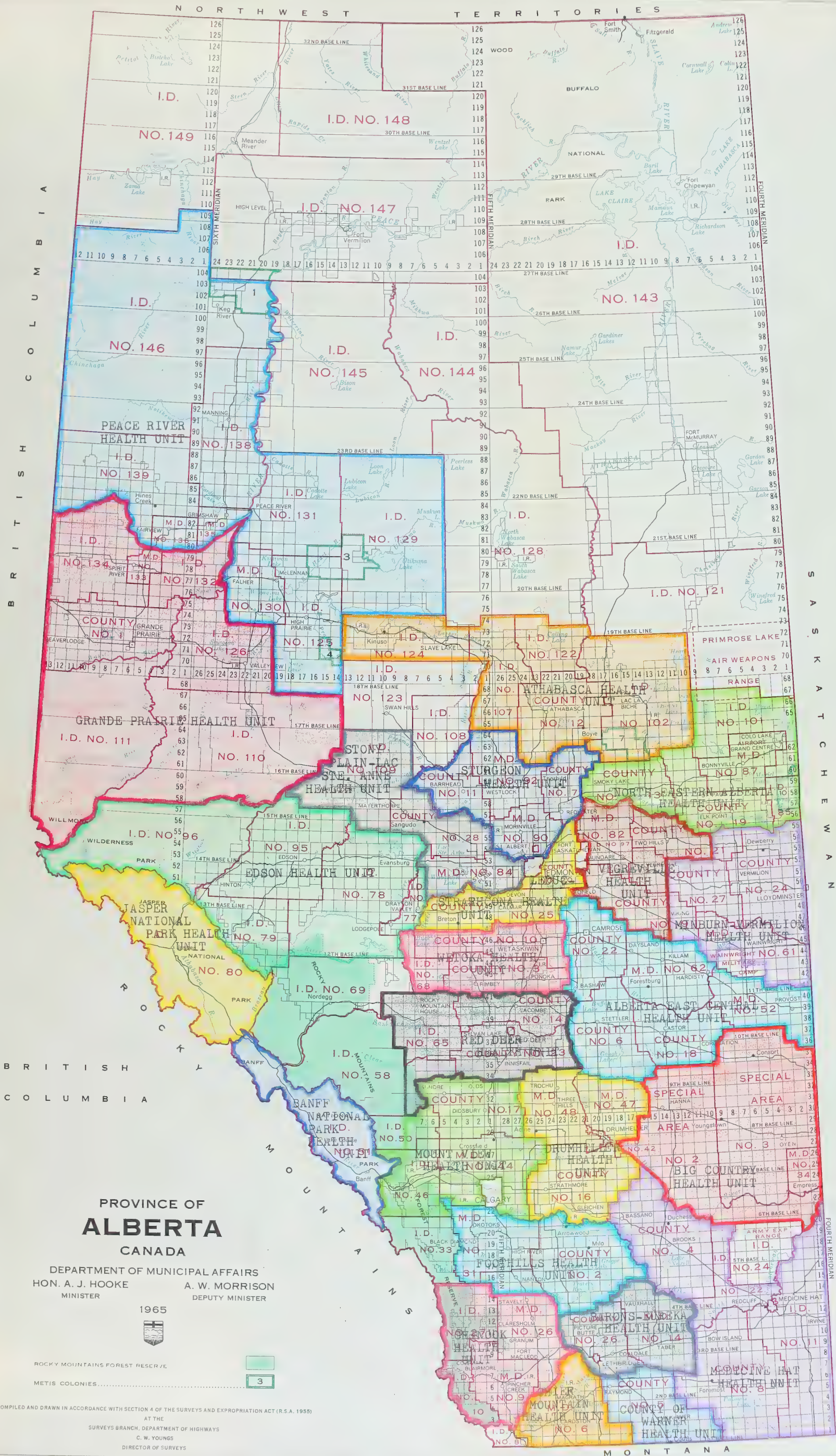
TABLE 2 - PROPOSED ORGANIZATION AND POPULATION DISTRIBUTION OF HEALTH REGIONS

Health Region	Headquarters	1965		Main Offices of Health Districts
		Population	Number of Health Districts	
Athabasca	Lac La Piche	63,353	3	Lac La Piche Athabasca St Paul
South Saskatchewan	Medicine Hat	64,880	2	Medicine Hat Hanna
Sturgeon	St Albert	71,189	2	St Albert Westlock
Pembina	Edmonton	71,961	2	Edmonton Edson
Peace	Grande Prairie	77,611	3	Grande Prairie High Prairie Peace River
Bow	Calgary	88,417	2	Calgary Drumheller
Red Deer	Red Deer	99,217	2	Red Deer Wetaskiwin
Oldman	Lethbridge	109,022	3	Lethbridge Coaldale Fort Macleod
Regina	Camrose	111,300	3	Camrose Stettler Weyburn





MAP 1 - PRESENT ARRANGEMENT OF HEALTH UNIT BOUNDARIES

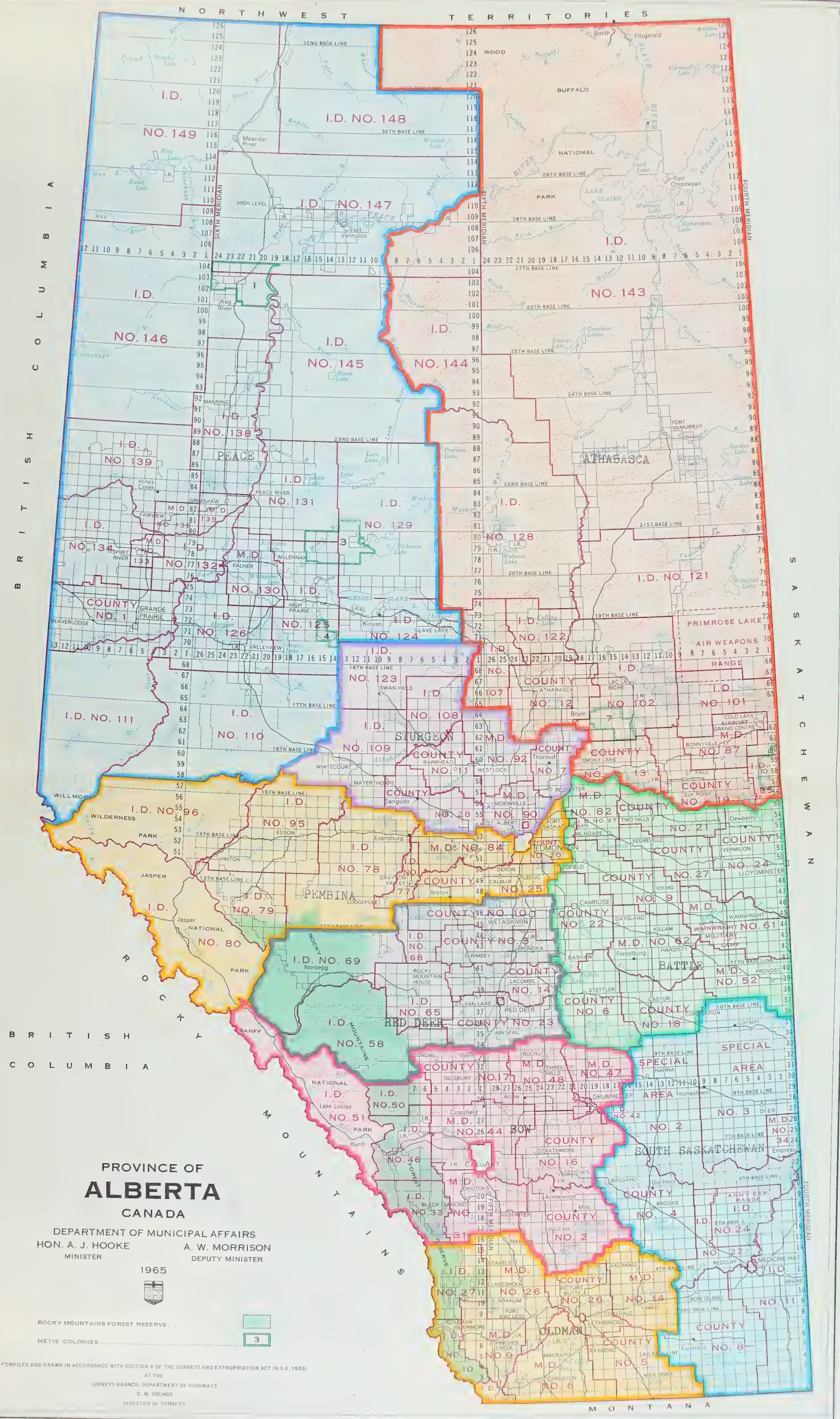








MAP 2 - PROPOSED ARRANGEMENT OF HEALTH REGION BOUNDARIES







SUBMISSION TO SPECIAL COMMITTEE  
STUDYING PUBLIC HEALTH SERVICES IN ALBERTA

From  
Public Health Nursing Division,  
Division of Local Health Services,  
Department of Public Health.

The Director of Public Health Nursing and the Nursing Consultant in Maternal and Child Health provide a consultant service to the senior staff of all health units and to municipal nurses. The Director has an administrative function in assessing the need for service and by assisting the local health authorities with recruitment, placement and orientation of public health nurses.

The duties of the Nursing Consultant in Maternal and Child Health are confined to public health activities but on the request of a medical officer of health or hospital authority, she provides consultant service to maternity and paediatric services in a hospital.

TYPES OF PUBLIC HEALTH NURSING SERVICE

A generalized public health nursing program is offered to residents of Alberta by both health units and municipal nurses. In addition, municipal nurses provide minor and emergency treatment to residents of rural communities remote from hospital or medical facilities. Eight of these nurses are located within health unit boundaries and their public health work is integrated into the program of the health unit to which they are attached. The other four are located outside health unit boundaries. The municipal nurses are directly responsible to the Director of Public Health Nursing, but welcome guidance and instruction in preventive public health matters from their local medical officer of health.

There is a good working relationship between the Provincial Health Department nurses and the senior public health nursing personnel in the cities of Edmonton and Calgary, although there are no administrative responsibilities.

PUBLIC HEALTH NURSES EMPLOYED IN HEALTH UNITS

Qualified public health nurses have skills, knowledge and tools which are unique to them and which are essential to a good quality public health nursing program.



Table I shows the present situation in regard to basic qualification of all nurses employed in official agencies in Alberta.

TABLE I

DISTRIBUTION OF NURSES EMPLOYED IN HEALTH UNITS,  
MUNICIPAL NURSING SERVICE, AND CITY HEALTH DEPARTMENTS  
IN RELATION TO BASIC QUALIFICATIONS  
OCTOBER - 1965 - ALBERTA

SERVICE	TOTAL		WITH PUBLIC HEALTH PREPARATION				WITHOUT PUBLIC HEALTH PREPARATION			
			Number		Percentage		Number		Percentage	
	1965	1964	1965	1964	1965	1964	1965	1964	1965	1964
Health Units	141	137	73	64	51.8	46.7	68	73	48.2	53.3
Municipal Nurses	11	14	2	5	18.2	35.7	9	9	81.8	64.3
City of Edmonton	76	75	44	34	57.9	45.3	32	41	42.1	61.2
City of Calgary	66	61	63	60	95.5	98.4	3	1	4.5	1.6
Total	294	287	182	163			112	124		

Although some improvement is evident, there are still several units who do not have even one qualified public health nurse on staff. The supply of nurses with public health training has never met the needs for replacement and expansion. Therefore, because of the urgent need felt by local boards to fill positions with stable graduate nurses, there is now a large group of nurses employed who, for a variety of reasons, are not able to seek their basic public health qualification. This policy often results in reduced service to the community, an increased need for on-the-job instruction and ineffective use of supervisory time.

It is sometimes considered that there should be a ratio of at least one nurse for every five thousand population. This number cannot be considered adequate if all or a high proportion of the nurses employed do not have their basic public health nursing qualification. Also, the development of new programs is often hampered as nurses without public health qualification tend to stay with established routine procedures.





To increase the number of qualified nursing personnel a definite policy in regard to the employment of graduate nurses should be followed whereby they must become qualified within a specified period of time.

Recruitment of qualified public health nursing staff for outlying areas and for units where there are few if any other public health nurses, is very difficult. One unit offers a higher salary but still has serious problems in obtaining nursing staff. Holding nursing staff is also a problem which could be lessened by sound policies regarding placement and transfer of nurses. Greater stability and job satisfaction for the nurses could be expected if there were more opportunities for promotion and a better quality of in-service education.

In seventeen health units a senior nurse or supervisor with definite responsibility for supervision of the nursing staff is employed. At present in the larger units the senior nurse devotes full time to administrative and supervisory duties whereas in the smaller units her time is divided between these duties and responsibility for the public health nursing service in a specific area. None of the senior nurses has had additional formal education to equip her for added responsibilities. However, several senior nurses have had many years of experience. There are four senior nurses who have not had their basic public health nursing course.

#### DISTRIBUTION OF PUBLIC HEALTH NURSES

Table II shows the distribution of public health nurses throughout the province. When the great differences in the size of the units and the communication problems that exist in remote areas are considered, it is apparent that at least some of the rural areas must be receiving a greatly reduced service.



TABLE II

DISTRIBUTION OF NURSES IN RELATION TO POPULATION, AREA AND POPULATION DENSITY  
IN HEALTH UNITS AND CITY HEALTH DEPARTMENTS ARRANGED IN ASCENDING ORDER OF POPULATION SIZE

Local Health Authority	Population	Area in Square Miles	Population Density	No. Health Unit Nurses      Staff	Number of Municipal Nurses	Nurse-Population Ratio
HEALTH UNITS						
Jasper National Park	2,902	4,200	0.69	-	-	1:2,902 **
Banff National Park	4,101	2,600	1.56	-	-	1:4,101 **
County of Warner	9,591	1,600	5.99	-	-	1:4,796
Big Country	11,002	8,800	1.25	1	-	1:4,954
Athabasca	22,295	8,500	2.62	1	2	1:3,062 *
Chinook	22,809	4,000	5.70	-	-	1:5,702
Foothills	23,252	3,800	6.12	1	-	1:5,888
Edson	23,72	11,000	2.17	1	-	1:3,979
Stony Plain-Lac Ste. Anne	25,603	4,300	5.95	1	-	1:3,401
Barons-Eureka	29,446	3,000	9.80	1	-	1:5,172
Drumheller	29,602	4,200	7.05	-	-	1:4,934
Minburn-Vermilion	29,698	5,000	5.94	1	-	1:4,950
Wetoka	29,683	3,100	9.54	-	-	1:5,977
Vegreville	30,634	3,700	8.26	1	-	1:4,376
Leduc-Strathcona	31,850	1,900	16.76	1	-	1:4,550
Mount View	32,311	4,300	7.51	1	-	1:5,385
Peace River	34,814	26,300	1.32	1	3	1:4,090 *
Grande Prairie	35,627	18,400	1.95	1	3	1:4,270 *
City of Lethbridge	36,805	12	3,067.	1	-	1:5,258
North Eastern Alberta	39,326	6,000	6.55	1	-	1:4,916
Medicine Hat	49,840	9,300	5.36	1	-	1:4,984
Alberta East Central	51,468	7,300	7.05	-	-	1:6,433
Sturgeon	54,536	3,700	14.74	1	-	1:6,060
Red Deer	69,206	4,500	15.38	1	-	1:5,767
	732,032					
CITIES						
Calgary	311,116			Dir. 2      Sup. 5	-	1:4,714
Edmonton	357,696			1      6	-	1:4,707
Total Population	1,402,644					





# PROFESSIONAL TRAINING GRANTS

## I. BURSARIES FOR BASIC QUALIFICATION IN PUBLIC HEALTH NURSING

Bursaries provided for graduate nurses through Dominion-Provincial Professional Training Grants to enable them to take their basic public health nursing qualification have been available since 1948. These have assisted greatly in raising the proportion of qualified public health nurses working in official agencies. Table III shows that many of the nurses who received bursaries during the last five years worked only for the one year required as return in service. A proportion of the loss after one year is due to matrimony but there is known to be an appreciable loss due to nurses accepting positions in hospitals or other agencies either in other provinces where salaries are higher or in other agencies which are located in or near large centres of population.

TABLE III

SUMMARY OF PUBLIC HEALTH NURSING BURSARY RECIPIENTS  
FOR BASIC QUALIFICATION 1959 - 64 - (ALBERTA)

YEAR OF COURSE	TOTAL NO.	PRESENTLY IN P.H. IN ALBERTA	WORKED 1 Yr.	WORKED 2 Yr.	WORKED 3 Yr.	WORKED 4 Yr.
1959 - 60	* 11	2	8			
1960 - 61	23	5	12	4	1	1
1961 - 62	12	4	7		1	
1962 - 63	8	5	3			
1963 - 64	9	7	2			
Total	63	23	32	4	2	1

\* 1 worked in Hospital.



In the academic year 1964-1965 there were twenty-four nurses who received bursaries for public health nursing through professional training grants. Immediately the course was completed there was no difficulty in arranging for placement of all these nurses plus a few who had not received assistance. In spite of this welcome increase, we continually have a minimum of five vacancies for nurses throughout the health unit service.

This year with a very large class of students in the basic public health nursing course at the University of Alberta, twenty-seven of whom are in receipt of a professional training grant which ensures a return in service of at least one year, we anticipate further improvement in the proportion of qualified nurses throughout the service.

## II. BURSARIES FOR ADVANCED PUBLIC HEALTH NURSING COURSES

Only occasionally has a request for a bursary to obtain advanced qualification in public health nursing been received from the staff of an official agency. In spite of the encouragement suitable leaders have been given to extend their education, the few opportunities for promotion, the small size of the bursaries that have been available and the loss of salary the nurses would experience have dissuaded them.

It is recommended that policies be established to overcome the lack of qualified leaders and that steps be taken to raise the qualifications of nurses with demonstrated or potential leadership ability in line with the supervisory positions that are presently in our health unit service and to equip them for promotion when more advanced positions are opened up. Without this stimulus, other steps to raise the quality of public health nursing will be seriously hampered.

To offset financial loss which the applicants for advanced courses would suffer, it would be necessary to provide substantially larger bursaries and following the course, recognition by means of an increase in salary.

## GENERALIZED PUBLIC HEALTH NURSING PROGRAM

The following is a brief outline of public health nursing services usually rendered by an official agency:

1. Prenatal programs - both to individual patients and in group teaching.
2. Postnatal and new infant home visiting.



3. Child Health Conferences, including counselling and immunization programs.
4. School health services which include assisting with medical examination of selected children, screening tests for defects, teacher-nurse conferences, immunization programs and home visiting.
5. Communicable disease control programs, including tuberculosis, in co-operation with attending physicians and sanatoria personnel.
6. Mental health, chiefly preparatory and liaison work with provincial guidance clinic patients.
7. Health education including nutrition and dental health in routine counselling both in homes and in group work.

In Alberta the variations in levels of service in the above listed programs are very wide, as indicated by the following facts:

1. At least seven health units do not conduct any prenatal classes.
2. At least two health units do no hospital visiting to mothers of new infants, although this has been proven not only a most rewarding service but also a means of saving time and promotes much needed liaison between hospital and public health personnel.
3. A recent survey has shown that every health unit in Alberta has a different school health program.
4. Up to the present, not all health units are working with the provincially sponsored Registry for Handicapped Children and Adults.
5. The Alberta Schedule of Recommended Immunization Procedures is interpreted in a variety of ways which creates unexplainable difficulties to patients who move from one unit to another and also extends the time necessary for orientation of new staff.
6. Records for patients and methods of keeping statistics vary from unit to unit. This results in duplication of effort in copying data, loss of continuity in service, and prevents a valid analysis and evaluation of services on a provincial basis.





RECOMMENDATIONS FOR IMPROVEMENT I. PUBLIC HEALTH NURSING SERVICE

- I. In view of the deficiencies which exist in public health nursing programs it is therefore recommended that the services presently being given be evaluated by a team of public health experts with a view to enacting comprehensive reform by:
  - A. Eliminating programs of least value.
  - B. Up-dating methods of continuing worthwhile programs.
  - C. Adding proven new services.
- II. Because of the large number of nurses in the total public health team, effective administration demands organization within their ranks. At the present time there are deficiencies in the amount of nursing supervision and consultant services available to our health units. To remedy this situation consideration should be given to the following:
  - A. Under the Director of Public Health Nursing, in addition to the Nursing Consultant in Maternal and Child Health, the appointment of two more well qualified nursing consultants to the provincial office, one with the specialty in mental health and the other in occupational nursing. In addition to performing duties related to their specialties in all areas of the province, each consultant would be able to carry out the responsibilities of a generalized public health nursing consultant for a geographical section of the province according to the boundaries established for health units. Their duties would include assessment of standards and making specific recommendations with authority to local personnel with the aim of improving the quality of nursing service throughout the province and assisting with plans to carry them out.
  - B. With the proposal for larger geographical areas for the health regions, a full-time nursing supervisor working under the direction of the Director of the Health Unit, would be required for each region employing at least ten nurses. In areas large enough to require several sub-offices, one or more assistant supervisors or senior nurses would be required. They would be able to carry out both supervisory and service responsibilities. Not only would this arrangement immediately up-grade the quality of nursing service, but more opportunities for promotion of staff would be created and therefore assist with the holding of good personnel.



- III. Although central administration would assure that sound basic programs are evolved in all areas, there must always be sufficient flexibility to permit adjustment of programs for our social, economic and geographical differences.

#### SUMMARY OF RECOMMENDATIONS

- I. Survey of the present services by a team of public health experts with strong nursing representation.
- II. Organizational changes to provide for more consultant and supervisory services to the local health unit personnel.
- III. Action taken to improve the qualifications of staff and supervisory nurses.
- IV. Review of the salary scale for Alberta public health nurses in relation to other professions requiring comparable qualifications (e.g., teachers, dietitians, social workers) and in relation to salaries paid to public health nurses in other provinces.

The public health nursing services in Alberta have been well documented in the Report of the Nursing Education Committee under the chairmanship of Dr. E. P. Scarlett released in 1963 and the brief on the Standards of Professional Nursing Practice submitted to Premier Manning and Members of the Cabinet in April 1964 by the Alberta Association of Registered Nurses. Both of these give constructive criticism and positive recommendations for improving the quality of public health nursing in Alberta.





Re: DENTAL PUBLIC HEALTH IN ALBERTAI - The Present Situation(a) History and Present Dental Grants Legislation for Administration.

The first Health Units were established in Alberta during 1931 with the object of providing rural communities with public health preventive services comparable to those available to the residents of larger cities.

It was recognized that the basis of any public health service should be the local health department but that it would require financial assistance from the government. Accordingly it was the policy of the Government of Alberta to assist certain municipalities through grants towards local Health Units to the extent of fifty percent of their operating costs. On April 1st, 1950, this grant was increased to sixty percent.

The Health Unit Act was introduced in 1951.

An amendment to the Health Unit Act in 1952 provided for the employment by local Boards of Health of part-time or full-time dental officers and dental assistants. Previous to this amendment dental service costs were budgeted for in the same manner as other Health Unit operating costs, the Department paying sixty percent of an approved budget which covered equipment, supplies, rent, travel and subsistence, and salaries up to the level recommended by the government's Salary Survey Committee. A 1958 amendment to the Health Unit Act established a per capita grant and provided for a separate dental health grant (equivalent to one-fifth of the general health services grant) available on request to local Health Units. This grant (as with the general health services grant) must be matched locally by the contributing councils by at least two-thirds of its amount. Any amount over this basic budget must be contributed locally. The decision to provide a dental health program in a Health Unit, and the basic type of program to be provided is the autonomous right of the local Health Unit Board.

The cities of Edmonton and Calgary were not eligible to receive the Health Unit dental health services grant. However, legislation passed in 1960 at the spring session of the legislature provided for the payment of 10 cents per capita health services grant to cities with a population of over 100,000.

The cost of local health services, in city health departments as well as in Health Units, is shared among Federal, Provincial and Municipal Governments.

The Health Units at Banff and Jasper each receive a grant for dental services at the rate of twenty-five cents per capita. Since the National Parks are provided with certain public health services by the Federal Government, they are not required to qualify for these grants by means of local contributions.

During the 1960 spring session of the legislature a Dental Auxiliaries Act was passed, whereby the employment of one or more registered dental auxiliaries is authorized by the Minister, a further grant be made up to ten percent of the rate of grant for



general health services provided that the total grant under this clause shall not exceed sixty percent of the total expenditures for dental services.

With the approval of the Lieutenant Governor in Council and upon such terms and conditions that the Lieutenant Governor in Council may specify in each case, the Minister may render financial assistance to a Health Unit, which through circumstances beyond its control, is faced with expenses that place too great a burden on its financial resources or those of a contributing council, (1963, c. 23, s. 8).

(a-1) Developmental History of Health Unit Dental Health Service.

The first dental health program to be operated by a rural Health Unit on a full-time basis was established at Lamont in the summer of 1943 and continued in operation until mid-summer of 1964.

Wetoka commenced a dental program in 1943 and discontinued the service in 1946.

Jasper Place established a service in 1957 and was amalgamated with the City of Edmonton in 1964.

PRESENT DENTAL PROGRAMS

Establishment Date	Health Unit	Population	Density	Area in Square Miles
1954/55	Barons-Eureka	28,292	9.43	3,000
1957/58	Sturgeon	53,964	14.58	3,700
1960/61	Mount View	32,255	7.50	4,300
1960/61	Red Deer	68,254	15.28	4,500
1960/61	Athabasca	21,232	2.50	8,500
1960/61	Chinook	22,817	5.70	4,000
1960/61	Edson	23,540	2.14	11,000
1960/61	Jasper National Park	2,902	N.A.	4,200
1960/61	Drumheller	29,225	7.31	4,200
1961/62	Grande Prairie	35,483	1.93	18,400
1961/62	Medicine Hat	49,812	5.36	9,300
1961/62	Banff National Park	4,101	N.A.	2,600
1961/62	Peace River	34,122	1.30	27,400
1961/62	Vegreville	30,574	8.26	3,700
1962/63	Stony Plain-Lac Ste. Anne	25,205	5.8	4,300
1962/63	North Eastern Alberta	38,183	6.36	6,000
1964/65	Leduc-Strathcona	31,725	16.70	1,900

(b) Organization.

Dental Public Health was established as a branch of the Division of Local Health Services and received appropriation number 2417. A part-time Director was appointed in August, 1959, and a full-time Director in November, 1963.

The first part of the paper discusses the importance of understanding the underlying structure of the data. This is particularly relevant in the context of machine learning, where the ability to identify patterns and relationships in the data is crucial for making accurate predictions.

One of the key challenges in this area is the need to develop robust methods that can handle noisy and incomplete data. This requires a combination of theoretical insights and practical techniques.

In the second part of the paper, we explore the role of regularization in improving the performance of machine learning models. Regularization helps to prevent overfitting by penalizing complex models, which is essential for ensuring that the model generalizes well to new data.

Finally, we discuss the implications of these findings for the design of machine learning algorithms. The results suggest that incorporating regularization and robustness considerations into the algorithm design can lead to significant improvements in performance.

The authors would like to thank the anonymous reviewers for their helpful comments and suggestions.

This work was supported by the National Science Foundation under Grant No. 1234567.

The authors declare that they have no conflict of interest.

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References	
[1]	Smith, J. D. (2010). A study of the effects of regularization on machine learning models. <i>Journal of Machine Learning Research</i> , 11, 123-145.
[2]	Johnson, M. E. (2012). The impact of data quality on machine learning performance. <i>Data Mining and Knowledge Discovery</i> , 24(2), 156-178.
[3]	Chen, L. (2015). Robust machine learning: A survey. <i>ACM Computing Surveys</i> , 48(3), 1-35.
[4]	Wang, Y., & Zhang, H. (2018). A comprehensive review of regularization techniques in machine learning. <i>Artificial Intelligence Review</i> , 31(1), 1-25.
[5]	Li, X., & Li, Y. (2019). The role of regularization in deep learning: A theoretical perspective. <i>Neural Networks</i> , 112, 1-15.
[6]	Kim, S., & Lee, J. (2020). Regularization and robustness in machine learning: A comparative study. <i>Pattern Recognition</i> , 100, 107-125.
[7]	Ng, A. Y. (2004). The benefits of regularization for machine learning. <i>Proceedings of the National Academy of Sciences</i> , 101(12), 4269-4274.
[8]	Ho, T. K. (1995). A simple way to achieve bayesian regularization in neural networks. <i>Proceedings of the International Joint Conference on Artificial Intelligence</i> , 95, 912-917.
[9]	Wahba, G. (1990). <i>Spline Models in Applied Statistics</i> . John Wiley & Sons.
[10]	Wahba, G. (1991). <i>Penalized Likelihood</i> . John Wiley & Sons.
[11]	Wahba, G. (1992). <i>Bayesian Inference for Spline Models</i> . John Wiley & Sons.
[12]	Wahba, G. (1993). <i>Bayesian Inference for Spline Models</i> . John Wiley & Sons.
[13]	Wahba, G. (1994). <i>Bayesian Inference for Spline Models</i> . John Wiley & Sons.
[14]	Wahba, G. (1995). <i>Bayesian Inference for Spline Models</i> . John Wiley & Sons.
[15]	Wahba, G. (1996). <i>Bayesian Inference for Spline Models</i> . John Wiley & Sons.
[16]	Wahba, G. (1997). <i>Bayesian Inference for Spline Models</i> . John Wiley & Sons.
[17]	Wahba, G. (1998). <i>Bayesian Inference for Spline Models</i> . John Wiley & Sons.
[18]	Wahba, G. (1999). <i>Bayesian Inference for Spline Models</i> . John Wiley & Sons.
[19]	Wahba, G. (2000). <i>Bayesian Inference for Spline Models</i> . John Wiley & Sons.
[20]	Wahba, G. (2001). <i>Bayesian Inference for Spline Models</i> . John Wiley & Sons.

The Health Unit system makes it possible for the rural districts and smaller urban centers to have an efficient staff, and to provide an adequate program by combining such rural districts and urban centers into units having populations large enough to employ economically the services of a staff trained in public health work.

The Health Units are authorized to establish dental services for the benefit of children up to sixteen years of age.

The appointment of a Dental Health Officer for the Health Unit is the initial step followed by the employment of dental auxiliaries and assistants.

A program was developed whereby a preventive educational dental health service could be made to fit the particular needs and resources of a Health Unit by utilizing the services of private practice dentists on a part-time basis through an arrangement with the Alberta Dental Association. The main responsibility of these dentists is the supervision of the dental auxiliaries. Under arrangement with the Faculty of Dentistry, University of Alberta, the services of third-year dental students could be used during the summer recess to provide limited and defined preventive and educational dental services. Since 1963 seven third-year students have been employed by Health Units and in 1965 two were on special assignments by the Department.

#### Present Status in Health Units

<u>Dental Officers</u>	<u>Dental Officers</u>	<u>Auxiliaries</u>	<u>Assistants</u>
8 Full-Time	17 Part-Time	23	22

Two of the full-time dental officers have a diploma in dental public health.

#### Present Status in City Health Departments

Edmonton and Calgary each have a full-time Dental Officer of Health having his Diploma in Dental Public Health obtained under the Federal Professional Training Grant as were the diplomas earned by the two Health Unit Dental Officers.

##### City of Edmonton

Dental Director - 1  
Clinical Dentist - 1  
Dental Auxiliary - 5  
Dental Assistant - 6

##### City of Calgary

Dental Director - 1  
Clinical Dentist - 5  
Dental Auxiliary - 4  
Dental Assistant - 5

#### (c) Administration.

Each Health Unit is administered by a Board of Health which is composed of Councillors from the major contributing municipalities. The Board is responsible for appointing its own staff and for the establishment of its budget. Please refer to (a) - History and Present Dental Grants Legislation for Administration.





(d) Population Characteristics.

As tabled under (a-1) - Developmental History.

(e) Operating Costs - 1965 - Health Units and Cities.

Provincial Grant Dental Services	\$236,679.17
Local Councils Contribution of 2/3	104,478.23
	<hr/>
	\$341,157.40
Anticipated Supplement	46,200.00
Local Councils Contribution of 2/3	30,800.00
	<hr/>
	\$418,157.40

(f) Financing for Dental Health Services.

Where such services are provided in accordance with the regulations a grant is made equal to twenty percent of the grant for general health services.

Where the employment of one or more registered dental auxiliaries is authorized by the Minister a further grant up to ten percent of the grant for general health services is made provided that the total grant for dental health services does not exceed sixty percent of the total expenditures for dental services.

A Health Unit is eligible for a grant for dental health services when, for such services, the contributing councils provide the Board of Health of the Health Unit a sum at least equal to two-thirds of the dental grant.

The contributing councils pay the balance of the expenses and each contributing council pays the portion of these expenses that its population served by the Health Unit bears to the total population served by the Health Unit.

The Board of Health refunds to the Department and to the contributing councils that portion of an unexpended balance of the contributions for dental services that exceeds ten percent of the basic budget for the year for that service as shown by the Auditor's financial statement.

(g) Accommodation.

The main dental offices for administration and clinical services are contained within the Health Unit's headquarters and number seventeen. There are thirty-two substations. Accommodations for the dental services are also located on a visitation basis in schools, churches and community halls. These facilities are served by portable dental equipment. There are also two mobile dental units utilized by two Health Units for rural service.

(h) Scope of Service.

The objectives of dental public health are to promote and have accepted by the public that good oral health is a personal responsibility of the individual and is accomplished by placing the emphasis



on the prevention of oral disease and oral maldevelopment; to encourage early treatment and maintenance of the oral tissues and natural dentition; to promote the development of procedures for the early detection and control of such conditions when they are not prevented; to promote principles of prevention and education and develop the attitudes that will motivate the public to accept, practise and demand these preventive and control measures.

Basic dental public health principles are utilized by the dental officers and staff to achieve these objectives, and these principles are contained within the philosophy of public health. They formulate a practical approach to the implementation and maintenance of effective dental health programs as outlined by the Canadian Dental Association:

- (1) To encourage the collection and evaluation of base-line data on dental conditions.
- (2) To encourage and assist in prevention by:
  - (a) Intense and continuous dental health education throughout the community with particular emphasis on the importance of those preventive measures which can be performed only by the individual himself, or as a member of his family group.
  - (b) The use of those preventive measures which can be provided through community organization, such as fluoridation of communal water supplies.
  - (c) The use of preventive services which can be rendered by the dental profession and its auxiliaries, such as topical fluorides.
- (3) To encourage the early diagnosis and systematic treatment of those conditions which cannot be prevented in the light of present scientific knowledge.

(i) Levels of Service.

The Health Units and City Health Departments are authorized to establish dental services for the benefit of children up to sixteen years of age. These services may include dental examinations, treatment of select age groups, and education in dental hygiene. The dental services are directed mainly at the preschool and school age children. The Health Unit may employ a dental officer, dental auxiliaries, and dental assistants. The Board of a Health Unit has the authority to decide on the number of staff to be employed and if on full or part-time basis. The dental auxiliary plans with the dental officer, together with the medical officer and staff, an educational-preventive program.

Methodology

- (1) An inventory or survey is made of the need for services amongst the children of the area and the availability of treatment services. This collection





of baseline data is essential for future evaluation of the preventive and educational program.

- (2) The program is commenced for the first year at ages 6-7 years and possible inclusion of preschoolers and parent consultations. This procedure includes referral to the family dentist for treatment of dental defects. Topical fluoride applications by the dental officer and dental auxiliary are also undertaken in limited age groups with the written approval of the parent. These essential services are continued throughout each year of the program.
- (3) At the beginning of the second year other age groups are added to the program progressively in addition to sustaining those already included. The suggested age groups are 3-5-7-9-11-13 years with the younger age groups receiving priority. The process of inclusion should continue year by year until all age groups are included.
- (4) After the establishment of the program the following services are rendered as accepted procedure:
  - (a) Sampling surveys and maintaining accurate records.
  - (b) Regular examinations and referrals to family dentist.
  - (c) Prophylaxis and topical fluoride applications.
  - (d) Giving addresses on dental health to the children, parents and captive audiences utilizing actual demonstrations, models, films, literature and other means of disseminating informative material in co-operation with other health workers, teachers and personnel related to the health of the community.
  - (e) Child-parent consultations.
  - (f) Inclusion of prenatal and infants into the program.
  - (g) Research projects.

The programs are basically preventive and educational in nature providing for statistical surveys and evaluation with the baseline data, dental health education, examination, consultation with students and parents, referral to family dentist, prophylaxis, topical fluoride applications, research, and varying degrees of actual dental care to limited age groups depending upon local circumstances. The rendering of emergency dental treatment is given to school children and upon occasion to adults in need of immediate relief from pain and/or infection in the oral cavity.

It is to be noted that the preventive dental health program is an integral part of the Health Unit services generally and its



measure of success is governed to a large degree by its acceptance and use by the public. The programs in operation are based on education and prevention and are carried on as a continuous program of dental health education including the prenatal, preschool and school periods.

(j) Staffing of Local Health Units.

- (a) Full-time or part-time dental officer.
- (b) Full-time and/or part-time dental auxiliary.
- (c) Dental assistant.
- (d) Third-year dental students during summer recess.

(k) Supervision - Local Level.

The dental officer supervises the services given by the dental auxiliary and dental assistant.

(l) Relationship to the Department of Health.

The Dental Public Health Branch was inaugurated into the Division of Local Health Services in 1959. The functions of this branch are:

- (a) On behalf of the Department to encourage, provide financial aid, and assist with the planning, organizing and maintaining of a comprehensive dental public health program in all local Health Units and City Health Departments throughout the province.
- (b) To advise and deal with matters pertaining to dental public health, allied health professions, and other groups or individuals in matters related to dental health.
- (c) To act in an advisory capacity to Health Unit Boards, medical officers, and dental officers, in relation to problems of administration.

(m) Other Factors and Provisions.

The results of dental neglect are the main contributing factors to the high cost of dental treatment services today.

The positive effects of preventive and educational dental health programs have resulted in an increased demand for treatment especially for the younger age groups.

For the more remote communities, where the population is sparse and not able to support a dentist in practise, the following procedure was established:

In order to render a more equitable distribution of available dental manpower throughout the province, particularly to those



areas without a dentist or where the demand would not likely be sufficient to support a full-time dental practice, a Volunteer Private Practice Program was developed and implemented. This program was arranged by the Department of Public Health in conjunction with the Alberta Dental Association whereby transportable dental equipment provided by the Department, on a loan free basis, could be used by members of the Alberta Dental Association to provide services on a private practice basis to people living in areas remote from existing dental services and where it was practical to do so. Transportation costs and mileage allowance is paid by the Department. This service must be requested by a responsible sponsoring organization in the area.

Comparative Table of Volunteer Private Practice Programs

<u>Year</u>	<u>Number of Clinics</u>
1961	14
1962	14
1963	15
1964	13
1965 (to date)	12

II - Problems Related to the Provision of  
Preventive Dental Health Services in Alberta

Problem Presentation

The prevention and control of disease is the challenge of public health services. It involves a change from the diagnosis and treatment of the individual to the diagnosis and treatment of the community at large as the patient.

Statistics received from provincial and national surveys indicate more than ever before in our history that the incidence and prevalence of dental disease and its many sequelae have not been substantially reduced through secondary prevention of treatment alone and it is more apparent than ever before that primary prevention is the approach to this national health problem through means of education to motivate the public to accept, appreciate and practise basic proven preventive methods of dental health.

The dental public health problem in Canada today has been outlined in the "Brief Submitted to the Royal Commission on Health Services by the Canadian Dental Association", in 1962 as follows:

"The unnecessary tragedy of dental diseases is one of Canada's gravest health problems. Dental diseases are largely preventable; yet they are virtually universal. Almost everyone needs dental care; yet in any given year only one-third of the population visits a dentist. By their very nature, dental diseases defy defeat without widespread application of preventive measures".

(a) Organization.

Health Units and City Health Departments offer preventive





dental health services to a large percentage of the population in Alberta. It is unfortunate that this valuable service towards the total health of our people is not available to all. Most of these non-serviced areas are rural and might even be classified as remote or even isolated to public health services and to the availability of treatment services. It is to be again noted that only seventeen of our present twenty-four Health Units have dental health programs.

(b) Administration and Financing.

The following observations have been noted during the consideration of Health Units establishing dental health preventive programs:

- (1) The more sparsely populated units are not able, under the present per capita grant system, to undertake a program without undue financial hardship. It does necessitate a large contribution to be undertaken by the contributing councils. It is more the rule than not that these units encompass a large area and lack many of the health facilities and amenities of the more urban areas and as a result these areas have in the main the greatest need for preventive health services.
- (2) The initial establishment cost for dental equipment is a very heavy expense to a Health Unit. This expense is almost always incurred during the first year and only additions to the original equipment are necessary thereafter for maintaining and expanding the service.
- (3) Recruitment of suitably qualified personnel is handicapped by the levels of salaries offered. These salaries do not compare favourably with the remuneration received from private practice.
- (4) Bursary subsistence allowances for dental auxiliaries are not in keeping with the allowances from other educational funds and is an important factor to be considered for present and future recruitment.

(c) Levels of Service.

- (1) All of the established Health Units do not have a dental health program. Some of the established dental services do not include dental auxiliaries in their programs. Inadequate supervision and direction of dental auxiliaries does result in some units employing part-time dental officers. The level and scope of services is therefore limited.
- (2) Parent-child counselling in some units is not encouraged to the degree it merits.
- (3) The issuing of referral cards notifying the parents of dental defects is not utilized to the fullest advantage.



- (4) Nurses have been noted to give dental examinations and to make recommendations for actual methods of treatment. Even the dental auxiliaries (two-year University Course) are not permitted by the Dental Auxiliary Act to render a diagnosis and prescribe the method of treatment. This is the professional right of the dentist. The above situation has at times created a lack of integration of Health Unit services between the nurses, dental auxiliaries, and dental officers.
- (5) The dental auxiliaries devote on an average seventy-five percent of their time on clinical applications of topical fluorides. These topical fluoride applications are a very important feature of the overall dental health services and are very time consuming. This is only one of the qualifications of the dental auxiliaries and too little time remains for preventive dental health education.

### III - Co-ordination of Preventive Dental Health Services

#### (a) Welfare.

It has been noted that social assistance and welfare recipients are not always aware of the dental service benefits available to them through private practitioners. This holds especially true for the more isolated and rural areas.

#### (b) Education.

- (1) The merit of the prevention, early recognition, and treatment of dental diseases does not receive the due importance it should in our school textbooks on health education.
- (2) The nursing profession and even the medical profession at times show a void in their professional training in so far as elementary principles involved in dental health are concerned. They do not always seem able to accept or understand the importance of dental health in relationship to total health and well being, physically, mentally and socially.

### IV - Recommendations

- (1) That preventive dental health educational programs be made an integral and equal part of Health Unit services in all present and future Health Units.
- (2) That a regional or territorial type of dental public health program be considered. This program would of necessity require the amalgamation of existing Health Units, and unorganized territories or areas, into larger units serving populations from 50,000 to 100,000 each.





Advantages to be expected:

- (a) A more economic and flexible method of administration.
- (b) Removal of budgeting hardships from the more rural and less populated areas.
- (c) Better utilization of the full-time dental officers who could in turn render adequate supervision to the part-time dental officers. This arrangement would give better direction and supervision to the dental auxiliaries.
- (d) Service would reach a greater proportion of the population.

It is recommended that the regional dental officer have his Diploma in Dental Public Health, and that under the regional concept, a category of dental auxiliary administrator be considered. She would of course be required to take advanced training in dental public health. This type of administrative position would result in a greater potential of services rendered under the regional system as recommended and a closer liaison would appear in relation to the dental auxiliaries, the staff of the Health Unit and the population to be served.

- (3) That the per capita grant system be reviewed.
  - (a) This form of grant does not encourage the more sparsely populated areas, and often they are the largest in area, to undertake dental health programs because of the heavy burden of financing.
- (4) That special consideration be given the Health Units in the purchase of acceptable dental equipment for the initial establishment of the service.
  - (a) In many instances Health Units because of budgeting difficulties have not been able to purchase the main clinical equipment of a calibre in keeping with the Health Unit environment and services offered.
  - (b) The poor standards of many of the portable types of equipment used is often a direct result of budgeting problems.
- (5) That all Health Units provide adequate furnishings, equipment, and space for clinical and administrative duties.
- (6) That better accommodations be provided the dental auxiliaries when in the field away from the main office.



- (7) That all schools should have adequate provisions for accommodation of health services in keeping with the professional services to be rendered.
- (8) That recruitment efforts on behalf of the dental auxiliary program be increased.
- (9) That the dental auxiliary bursary allowance for subsistence be increased from the present \$75.00 per month.
- (10) That isolation bonuses be paid as a recruitment means to further encouragement for dental auxiliaries and dental officers to become established in rural Health Units.
- (11) That the salary schedules be reviewed for both the dental officers and the dental auxiliaries and that they be made more closely commensurate with private practice remuneration.
  - (a) It is most difficult to have an equitable distribution of dental personnel when there is a choice between urban and rural living and consideration must be given to personal rewards of a monetary nature in order to obtain qualified personnel to administer dental public health programs.
- (12) That the dental auxiliaries be encouraged to devote more time to the educational aspects of the preventive dental health programs in schools, prenatal and preschool age groups with parents in attendance.
  - (a) They are well qualified in dental health education principles involving: nutrition, growth and development, oral health, maldevelopments including the recognition of pending malalignment and further serious orthodontic problems requiring referral to the dental officer for consultation, and then further reference to the family dentist for treatment.
- (13) That the dental officers be encouraged to take greater participation in parent-child counselling and especially in the very young age groups and the teen-age groups.
  - (a) Parents of the very young are appreciative of guidance counselling and of the interest shown in their children by the health personnel.
  - (b) In the teen-age groups it is often the last opportunity these children will have of being exposed to preventive dental health teachings. These children are the parents of tomorrow and should be given every opportunity to learn and accept the teachings of good dental health which in turn can be passed on to their children.
  - (c) The teen-age group is a most important evaluation point of the practical effectiveness of a preventive dental health program to which they have been exposed since primary grades.



- (14) That a closer relationship of understanding of each other's role in public health be encouraged between the nursing profession and the dental auxiliaries.
- (15) That dental health education receive its proper perspective in the health education of our school curricula.
  - (a) More emphasis should be placed on its importance to the individual in relation to his overall health picture.
  - (b) Its importance to him from a social and employment asset should be stressed.
  - (c) Some of the subjects that could include dental aspects are: nutrition, home economics, physics, chemistry, science and health. This method of approach could prove more interesting and acceptable to the students than the method now used.
- (16) That mobile travelling clinics be obtained and made available to the rural areas where dental treatment services are not procurable.
  - (a) This service would be complementary to the preventive, educational, dental program as offered, and would supply the means for the demands of the dental needs of the people.
  - (b) The dental health program brings to the population the necessity for prevention and early treatment, a means to obtain this essential treatment is paramount and must be made available.
  - (c) It is envisioned that this type of travelling clinic be modern and adequately equipped with the latest advancements in dental technology.
  - (d) That the dentist be a licensed dentist to operate on a private practice basis.
  - (e) The travelling dental clinic expenses to be paid for by the province with a guaranteed minimum professional income to the dentist.
- (17) That communal water fluoridation be encouraged and that the necessary majority for fluoridation in a local plebiscite be a simple majority of the total votes counted.
  - (a) The Alberta Dental Association in its Brief to the Cabinet, May 1965, stated that fluoridation of communal water supplies would reduce the incidence of caries by 60%.





## HEALTH EDUCATION AND NUTRITION SERVICES

### I SUMMARY

Health education and nutrition is an integral part of all public health services. For many years the development of these programs has been hindered in Alberta by a lack of personnel qualified in these specialities particularly at the local level.

This report outlines the need for such services and makes suggestions regarding the organization and financing of health education and nutrition services at the local level.

### II AIMS AND OBJECTIVES

One of the aims of all public health workers is to increase the competence of the individual to provide for his own health needs and those of his dependents. Neighborhoods and communities also need assistance to successfully tackle community health problems. The health educator and nutritionist working with other public health personnel, volunteers, teachers and parents can do much to guide individuals and communities to develop proper attitudes toward good health practices.

Telling is not teaching. Qualified health educators and nutritionists make use of a wide variety of methods to bring important health information to the attention of individuals and groups in such a way that they will understand it and act upon it. Teachers' institutes, short courses for food service personnel, demonstration classes, work with community groups, provision of pamphlets containing frequently requested information and regular radio and television programs are but a few examples of the activities that the health educator and nutritionist undertake to assist the public to improve health.

### III DEVELOPMENT

The Provincial Department of Public Health has provided a limited health information service since its formation, with the first "lecturer in health education" being appointed in 1928. The Alberta Department of Public Health employed a nutritionist in 1943. Although she was attached primarily to one health unit, she also served as advisor to the Department. In 1948 the nutritionist was assigned wholly to the Department. In 1956 Nutrition

AMERICAN MEDICAL ASSOCIATION

PUBLISHED WEEKLY  
CHICAGO, ILL., U.S.A.  
1918

Volume 17  
Number 1  
January 1, 1918

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Services and the Division of Health Education were amalgamated with other divisions to form the Division of Local Health Services.

Over the years the program has fluctuated with the availability of staff. In recent years the positions of director and assistant have been vacant for long periods and there has been a high turn-over of clerk-typists, all of which was very detrimental to the development of a sound program. The staff now consists of the Director of Public Health Education, Public Health Education Assistant (position vacant), Public Health Nutritionist, one stenographer, and two clerk-typists.

In the early years the emphasis of the health education and nutrition programs was on providing a direct service to individuals, teachers and community groups at the local level.

To-day the population of the province has increased; the Department of Public Health has increased responsibilities; and many preventive health services are now available at the local level through the health units. Because of this the professional staff of this Division have been forced to curtail their direct services in an attempt to meet the demands for consultant services from health units, other divisions of the Department of Public Health, other government departments and other agencies.

#### IV PRESENT STATUS OF HEALTH EDUCATION AND NUTRITION SERVICES

##### A. Public Health Education

At present the only public health education services available at the local level are those supplied by the health unit staff as an adjunct to their regular program. The amount of time given to the education and nutrition programs varies widely from unit to unit. However, very few units have a planned program of community health education or nutrition, and very few evaluate their present activities or experiment with new educational methods. This is probably the result of a shortage of personnel with the specialized training to plan and organize programs, and from the pressure of other demands on the time of the staff, rather than an absence of the need for health education and nutrition programs. In effect, a program which is "everyone's business" too often becomes "nobody's business". This is especially true of program areas



which fall outside of the currently offered services. For example, smoking, prevention of obesity, geriatric nutrition, accident prevention, and chronic disease prevention are frequently ignored.

B. School Health Education

The school health education program is a responsibility of the Department of Education and the teachers. However, they are able to draw upon the staff of the health units for additional information and teaching materials. The Department of Public Health film library is also available to schools and is used frequently by them.

C. Voluntary Agencies

Many voluntary agencies carry on a program of health education as a part of their service. Health unit personnel co-operate with these programs to a limited extent--particularly in the distribution of printed material. However, few joint educational programs have been attempted.

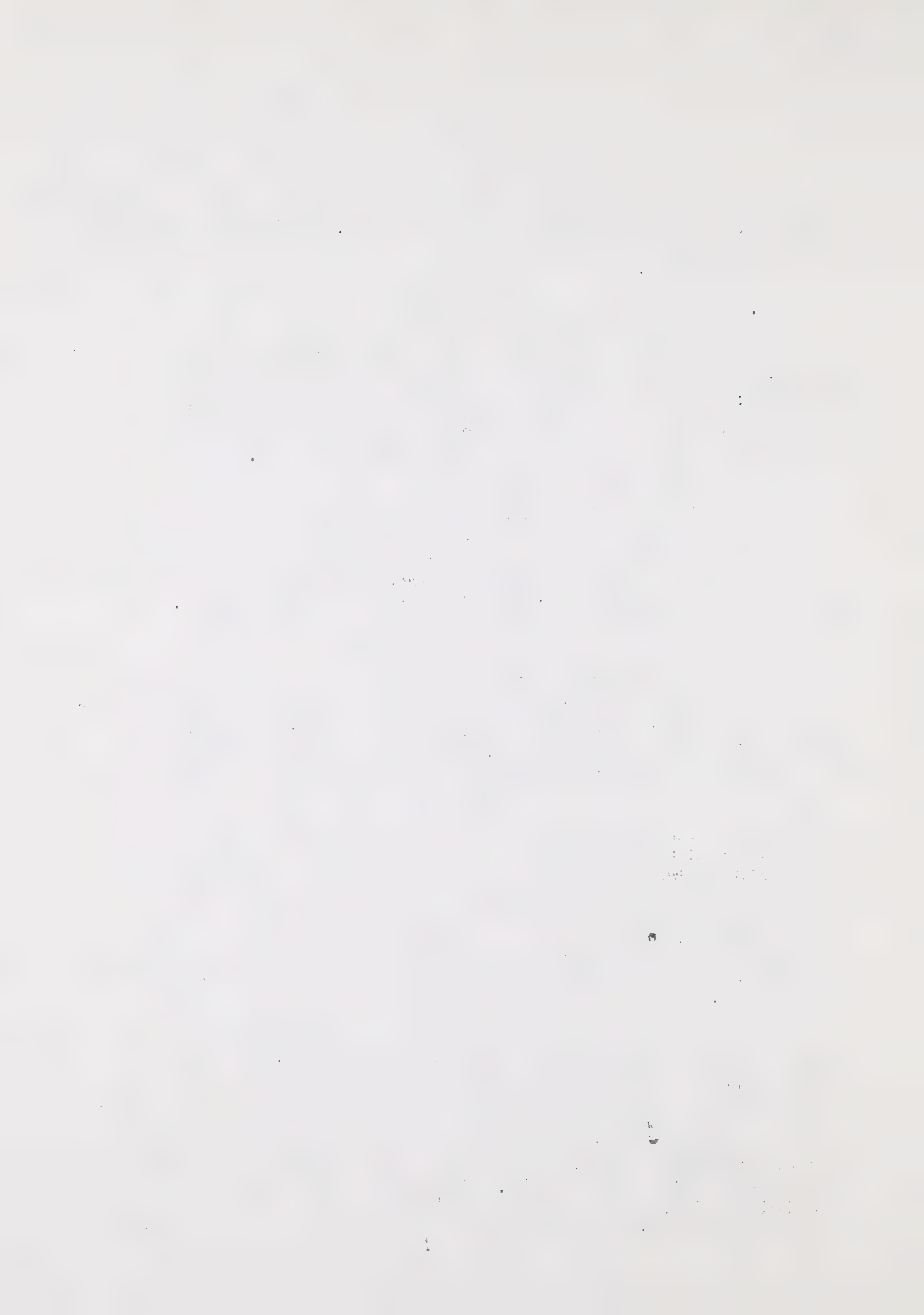
D. Publicity Bureau

The Publicity Bureau of the Department of Industry and Development co-operates with the Department of Public Health in writing and distributing material for the use of mass media, planning for and obtaining paid advertising and using other forms of publicity.

Publicity is often needed as a beginning step in the education of the public about new health measures and services as well as of reminding them about existing health problems and facilities. It should be emphasized that, while publicity is important, it is only a part of the educational process. Other methods of education need to be used to provide more information to groups and individuals, to deepen their understanding and to motivate them to action.

Although the Publicity Bureau is primarily concerned with matters of province-wide importance, much of the health information distributed through these channels pertains to programs being carried out by the Health Units. Staff of the local Health Units are primarily responsible for utilizing opportunities for publicity within their own area; however, consultant service is available to them from the central office. Again, limitations of staff time and training often prevent the Health Units from taking full advantage of these opportunities.





V      PRESENT AND FUTURE NEEDS FOR  
HEALTH EDUCATION AND NUTRITION SERVICES

The educational programs which the health units now attempt often fall short of their potential effectiveness because personnel in adjoining areas work independently rather than co-operating in an exchange of ideas and materials. This results in duplication of effort, uneconomical use of time and materials and failure to reinforce learning as well as poor utilization of mass media.

Knowledge of nutrition is an integral part of the promotion of health and the prevention of disease. Thus nutrition should be incorporated into all public health programs.

It is recognized that Nutrition is a rapidly changing science. One of the most important aims in any public health nutrition program is to translate research into practical facts that may be directly used in the home. The success of the nutrition program depends upon many factors, but chiefly upon the opportunity provided for the individual to obtain direct counselling. The most effective public health nutrition program is at the local, personal contact level. The importance of nutrition should not be under-rated because of the apparent adequacy of food supplies. Economic factors, lack of knowledge or simply personal likes and dislikes can result in dietary inadequacy in the midst of an abundance of food. Nor can the problem of over-nutrition be overlooked.

In future there will probably be an increasing need for health education and nutrition services:

- a.      as new health services are made available the public must be informed about them to ensure their effective utilization.
- b.      as new methods of preventing disease are discovered they should be interpreted to the public in such a way that each individual is motivated to adopt practices based on these findings.
- c.      information which is now known must continuously be made available to new parents, new teachers, and others who have a fresh need for it.
- d.      The public will continue to need an authoritative, unbiased source of health information to help them judge the merits of what they read and hear. A good health education and nutrition service at the local level is one important method by which the health department can meet this need.



## VI SUGGESTED ORGANIZATION -- HEALTH EDUCATION

As outlined in the foregoing sections there would be many advantages in providing health education services on a local level. Most of the health units now established serve too small a population to efficiently and economically utilize a qualified health educator. Such a person could probably serve a region of approximately 100,000 people. This might be conveniently arranged by having one qualified health educator to act as a regional consultant to several of the health units as they are now constituted or, even more effectively, by having one qualified health educator on the staff of each of the proposed regional health units.

If qualified health educators are not appointed, other members of the health unit staff will continue to have the health education functions thrust upon them. As already indicated this leads to a poor program of health education and a misuse of the valuable time of professional personnel who must take time from their own duties.

The following outline of health education functions at the regional and provincial levels should not be interpreted to mean that professional personnel in other disciplines have no responsibility for health education, but only that these functions should be the primary concern of a health educator.

### A. Health Education Functions

Regional (Local) Level	Provincial Level
1. Study health needs and possibilities for the health education program in the region. Analyze present knowledge, interests, beliefs and practices of the people in terms of aids or barriers to the educational process.	1. Study, survey and research in assessing health education needs throughout the province.
2. In-service education programs for the staff of the health units so that they may be more aware of health education opportunities and better prepared to utilize them to best advantage.	2. In-service education programs for provincial Department of Public Health staff and local health education personnel so that they may be more aware of the newer techniques of health education which may be adapted to their programs.



- |    |   |    |  |
|----|---|----|--|
| 3. | Planning with other health personnel and participation in teaching groups and individuals in the community. (e.g. food service personnel, expectant mothers, home and school associations)  | 3. | Consult with other Department of Public Health staff and local health educators on matters pertaining to health education. Provide a clearing house for information and ideas about education programs for the health units. |
| 4. | Prepare, secure and distribute teaching aids for the use of all health unit personnel   | 4. | Prepare and secure educational material and distribute it through useful channels.   |
| 5. | Liaison with hospitals, other health agencies and welfare agencies serving the area.  | 5. | Liaison with other health and Welfare agencies at the provincial and federal levels.   |
| 6. | Preparation and distribution of information for the use of mass media covering the area served by the health unit. (e.g. press releases on local matters, spot announcements, radio and TV) | 6. | Preparation of material for the use of mass media on a province-wide basis. Con-operation with Alberta Government Publicity Bureau.  |
| 7. | Be a resource for teachers so that they may be aware of new developments in the health field, teaching aids, activities of the health unit and other community agencies.                    | 7. | Consultation with the Department of Education as requested on health materials, curriculum planning, etc.  |
| 8. | Motivation of community action to support the development of public health programs by obtaining the participation of community leaders.  | 8. | Maintain and develop a reference library, film library and other resource material.  |





- |     |   |     |   |
|-----|---|-----|---|
| 9.  | Find and train volunteers to assist with health unit activities.          | 9.  | Recruit and assist with the training and placement of regional health education staff.                |
| 10. | Evaluate the effectiveness of the health education program in the region. | 10. | Evaluate the effectiveness of the health education program in the province.                           |
|     |   | 11. | Research into changing needs: research and development of more effective methods of health education. |

A consistent, efficient and effective program of health education could be developed through frequent consultation between health educators at the provincial and regional levels.

#### B. Qualifications of Health Educators

The Canadian Public Health Association approved the following Recommended Qualification Requirements for Health Education Personnel in 1965:

##### "Group I

##### Position and Duties

This group includes junior staff in a health education section or division in a health department who have no special qualification in health education and who are responsible for carrying out specific assignments under supervision.

##### Qualifications

Graduation from a recognized university in nursing education, social science, health and physical education or journalism.

##### Recommended Salary

Minimum \$5000 per annum. Maximum \$6250 to be reached in not more than 5 years.

##### Group II

##### Position and Duties

This group includes the health educator employed in a local department of health or in a health unit serving a population up to 100,000. Responsible for advising the administrative, supervisory and general staff in the development of a health education program and for carrying out special assignments. This group also includes staff health educators engaged, under supervision, in the health education programme of a larger organization.



### Qualifications

In addition to the requirements of Group I a year of post-graduate training in health education, at a recognized university, leading to a degree or certificate in public health.

### Recommended Salary

Minimum \$5500 per annum. Maximum \$6900 to be reached in not more than 5 years.

Standards for regional health educators should be set to conform with the above recommendations.

Since qualified health educators are in very short supply in Canada, it would probably be necessary to recruit suitable candidates to fill group I positions and then sponsor their further professional training. Monies are available to suitable candidates through the Federal Health Grants Training Bursaries at no cost to the province.

## VII. FINANCING AN IMPROVED HEALTH EDUCATION PROGRAM

The cost of the present health education program at the local level is very difficult to determine since it does not appear as a separate item in the budget of the health units. The proportion of the salaries of professional and clerical personnel (corresponding to the time they devote to health education activities), a similar proportion of their travel expenses, office overhead, provision for materials and a portion of the cost of the equipment and limited service provided by the Provincial Department of Public Health are all hidden costs of the health education program at the local level.

While the budget estimates given below might seem to add to the cost of the local health services, it is likely that sufficient savings could result through the more efficient use of the time of other professional personnel, reduced waste of materials and a more efficient program to offset this apparent increase.

Estimated annual budget for health education services at the regional level:

Health educators salary  
(Group II as recommended by C.P.H.A.)....\$5500 - \$6900

\*Clerical assistance  
(1/3 time clerk-typist I) ..... 800 - 1000



*Travel expenses (varies with size of area served) .....	500 -	1500
*Purchase or rental of equipment and materials .....	<u>500</u>	<u>500</u>
Total .....	\$7300 -	\$9900

\*These items are now partially provided by the health units to the extent that present staff engage in health education programs.

If this service were provided to regions serving approximately 100,000 people, a good regional health education service could be provided at a cost of 7 to 10 cents per person per year.

#### VIII PRIORITIES FOR HEALTH EDUCATION

The greatest need for qualified health educators is in the northern area of the Province and in the regions around Calgary and Edmonton. There are special problems to be solved before an effective health education program can be produced for the large, sparsely settled areas of the north, especially when consideration must be given to the special socio-economic factors affecting many of the people. The opportunities offered for health education and the needs of the Calgary and Edmonton areas differ significantly from the remainder of the Province.

The provision of full-time qualified health educators in these areas would enable the staff of the Provincial Health Education Division to devote more time to serving as consultants for the health units in the remainder of the Province, until a full complement of regional health educators was secured.

#### NUTRITION SERVICES

#### IX PRESENT PROGRAMS IN NUTRITION

Nutrition education is sponsored in Alberta by three official and two non-official agencies, the Provincial Departments of Agriculture, Education and Health, the Milk Foundations and the Canadian Diabetic Association. An active liaison is maintained between these agencies.





A. Official Agencies

The Women's Extension Services of the Alberta Department of Agriculture provides, through the district home economists, a program which covers all phases of homemaking. It includes nutrition, cooking, sewing, kitchen planning, home management, farm and home planning and as well considerable time is spent in planning programs and supervising 4-H Clubs for girls. This service, primarily for rural women, is available in 22 areas of the Province. There are 22 home economists in the field and three in the central office -- one supervisor, a specialist in clothing and one in home management.

The Alberta Department of Education provides for twelve classroom courses and two correspondence courses in home economics. At least one-third of the curriculum in each of these is devoted to the study of foods and nutrition. In the school year ending June 1965, there were 25,153 children registered in these courses.

The Alberta Department of Public Health, through Nutrition Services, provides a consultant service to public health personnel in the health units and city health departments, divisions within the Department, other government departments and institutions which do not employ a dietitian, in addition to the direct service given to individuals as time and staff permit. Since 1948 there has been an increase in the number of requests for service and an expansion of the scope of the program with wider and more diverse responsibilities, yet the staff of Nutrition Services has continued to consist of one nutritionist and the part-time services of a clerk-typist.

B. Non-Official Agencies

There are Milk Foundations situated in each of the five largest centres in the province, namely Calgary, Edmonton, Red Deer, Medicine Hat, and Lethbridge. Their main program is the distribution of literature within the cities, and in addition the Milk Foundation of Edmonton employs a nutritionist who shows films and gives talks to school children.

The Canadian Diabetic Association conducts an educational program for diabetics by providing a consultant service to doctors and hospital personnel and a limited program of direct counselling to individuals. These services are provided in Saskatchewan, Alberta, and British Columbia by one travelling diet counsellor.



X SUGGESTED PROGRAMS IN NUTRITION

1. Since concern for the nutritional status of the Metis has been repeatedly indicated in the reports of the health units in the north, consideration should be given to conducting a survey to determine actual needs and to the employment of a nutritionist to plan, organize and participate in a practical program for these people.
2. Obesity is a problem of increasing concern and should be of major importance to public health workers from the stand point of control and prevention. Therefore, assistance should be available to health unit personnel to develop suitable methods to combat this problem.
3. The public health nurses in their daily work are often in contact with parents whose poor money management adversely affects the health of the family. Since frequent requests for assistance in dealing with these problems are received from the nurses, an in-service education program on this part of their work is needed. Public health nurses have expressed a need for teaching aids in this field; however, pressure of other duties has proved a handicap in preparing them.
4. Since the number of people in the older age group is increasing, assistance should be available to the health unit personnel to integrate nutrition education into their services for this group.
5. Due to the shorter time patients are in the hospital there is less time to give them dietary instruction. This has resulted in an increased number of requests for public health nurses to give guidance in following therapeutic diets. In-service education programs for public health nurses to keep them up-to-date regarding modified diets are needed. Also needed are publications containing menu suggestions and tested recipes for the diets most frequently prescribed by doctors.
6. Alberta has a large number of institutions (municipal and auxiliary hospitals, nursing homes, senior citizens' homes, colleges, etc.) which are too small to require the full-time services of a dietitian, even if one were available. Therefore,



consideration should be given to extending the present consultant service to assist food service personnel with technical problems, food purchasing, menu planning, quantity recipes and therapeutic diets.

## XI SUGGESTIONS FOR PROVIDING IMPROVED NUTRITION PROGRAMS

1. If a nutritionist were employed to serve northern health units, nutrition education could be further integrated into current public health programs and new programs developed to improve the nutritional status of the Metis.
2. It might be fruitful to explore the possibility of having district home economists with post-graduate training in dietetics, provide consultant service to the institutions in their areas.
3. The cities of Edmonton and Calgary are large enough to warrant the services of a nutrition consultant of their own. This would permit the Public Health Nutritionist to provide more service to the health unit personnel.

The following are types of service which would be available if nutritionists were employed by the health departments of Calgary and Edmonton.

- a. Provide in-service training in nutrition for public health nurses, dental auxiliaries and other groups.
- b. Provide consultant service to public health personnel, occupational nurses, welfare workers and teachers.
- c. Obtain teaching aids. Prepare aids needed for special programs.
- d. Assist with programs for the prevention and control of obesity.
- e. Provide service to individuals requiring assistance with nutrition problems, including food budgeting and therapeutic diets.
- f. Address community organizations and give assistance with their program planning.
- g. Assist with training programs for visiting homemakers.
- h. Provide consultant services to institutions not employing a dietitian.





- i. Assist public health inspectors with courses for food handlers.
- j. Assist with the development of proven programs such as school lunches, meals-on-wheels, etc.

## XII FINANCING AN IMPROVED NUTRITION PROGRAM

Estimated budget for nutrition services in northern health units:

Nutritionist salary (Group II as recommended by C.P.H.A.) .....	\$5500 - \$6900
Clerical assistance ( $\frac{1}{4}$ time clerk-typist I) .....	600 - 600
Travel and subsistence .....	800 - 1000
Equipment and materials (rental and purchase) .....	<u>300 - 300</u>
Total .....	\$7200 - \$8800

Estimated budget for nutrition services in a city health department:

Note: The health departments in several Canadian cities have used a Federal Health Grant to initiate a nutrition service.

Nutritionist salary (Group II as recommended by C.P.H.A.) .....	\$5500 - \$6900
Clerical assistance ( $\frac{1}{4}$ time of clerk-typist I) .....	600 - 600
Travel and subsistence .....	250 - 350
Equipment and materials (rental and purchase) .....	<u>150 - 150</u>
Total .....	\$6450 - \$7900



DISTRIBUTION OF NURSES IN RELATION TO POPULATION, AREA AND POPULATION DENSITY  
IN HEALTH UNITS AND CITY HEALTH DEPARTMENTS ARRANGED IN ASCENDING ORDER OF POPULATION SIZE

Local Health Authority	Population	Area in Square Miles	Population Density	No. Health Unit Nurses		Number of Municipal Nurses	Nurse-Population Ratio
HEALTH UNITS							
Jasper National Park	2,902	4,200	0.69	-	1	-	1:2,902 **
Banff National Park	4,101	2,600	1.58	-	1	-	1:4,101 **
County of Warner	9,591	1,600	5.99	-	2	-	1:4,796
Big Country	14,862	8,800	1.69	1	2	-	1:4,954
Athabasca	22,295	8,500	2.62	1	5	2	1:3,062 *
Chinook	22,808	4,000	5.70	-	4	-	1:5,702
Foothills	23,552	4,000	5.70	1	3	-	1:5,888
Edson	23,872	3,800	6.20	1	5	-	1:3,979
Stony Plain-Lac Ste. Anne	25,603	11,000	2.17	1	3	-	1:6,401
Barons-Eureka	28,446	4,300	5.95	1	4 <sup>1</sup> / <sub>2</sub>	-	1:5,172
Drumheller	29,602	3,000	9.48	1	6	-	1:4,934
Minburn-Vermilion	29,698	4,200	7.05	-	5	-	1:4,950
Wetoka	29,883	5,000	5.94	1	5	-	1:4,950
Vegreville	30,634	3,100	9.64	-	5	-	1:5,977
Leduc-Strathcona	31,850	3,700	8.28	1	6	-	1:4,376
Mount View	31,850	1,900	16.76	1	6	-	1:4,550
Peace River	32,311	4,300	7.51	1	5	-	1:5,385
Grande Prairie	34,814	26,300	1.32	1	7	3	1:4,090 *
City of Lethbridge	35,827	10,400	1.95	1	7	-	1:4,270 *
North Eastern Alberta	36,805	12	3,067.	1	6	-	1:5,258
Medicine Hat	39,326	6,000	6.55	1	7	-	1:4,916
Alberta East Central	49,840	9,300	5.36	1	9	-	1:4,984
Sturgeon	51,468	7,300	7.05	-	8	-	1:6,433
Red Deer	54,536	3,700	14.74	1	8	-	1:6,060
	69,206	4,500	15.38	1	11	-	1:5,767
	733,832						
CITIES							
Calgary	311,116			Dir. Sup.		-	1:4,714
Edmonton	357,696			2	5	-	1:4,707
Total Population	1,402,644			1	8	-	

\* Population reduced for ratio by subtracting population served by Municipal Nurses.  
\*\* Part-time service.

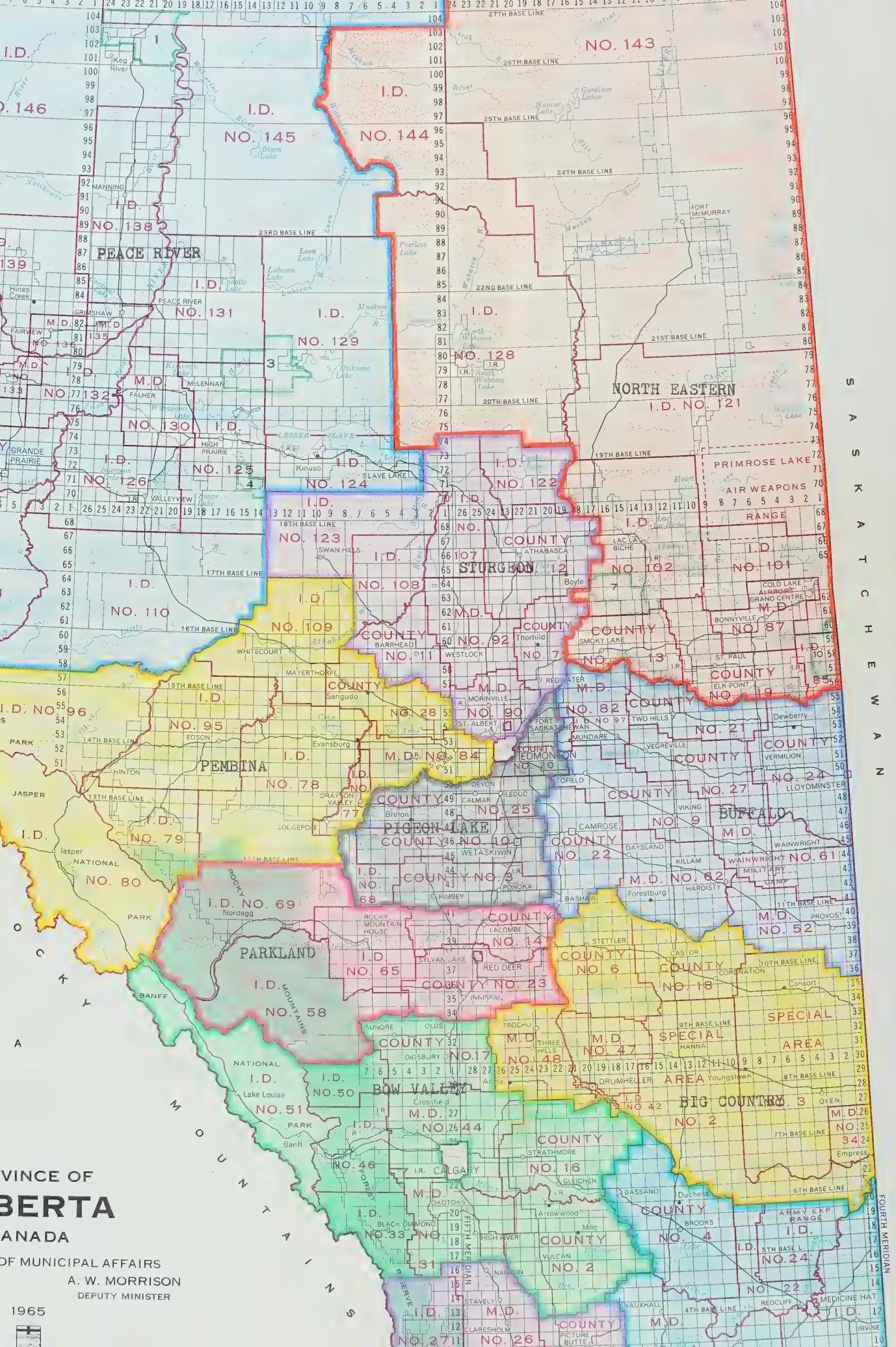


MODIFIED PROPOSALS FOR ORGANIZATION AND  
POPULATION DISTRIBUTION OF HEALTH REGIONS

Health Region	Headquarters	1965	Number of Health Districts	Main Offices of Health Districts
		Population		
North Eastern	St. Paul	50,577	2	St. Paul Lac La Biche
Big Country	Drumheller	52,053	2	Drumheller Stettler
Pembina	Edmonton	52,369	2	Edmonton Edson
South Eastern	Medicine Hat	62,745	2	Medicine Hat Taber
Pigeon Lake	Wetaskiwin	63,156	2	Wetaskiwin Leduc
Bow Valley	Calgary	65,767	2	Calgary High River
Sturgeon	St. Albert	68,515	2	St. Albert Athabasca
Parkland	Red Deer	69,868	2	Red Deer Rocky Mountain House
Peace River	Grande Prairie	79,344	3	Grande Prairie High Prairie Peace River
Buffalo	Camrose	95,383	2	Camrose Vegreville
Oldman	Lethbridge	95,812	2	Lethbridge Fort Macleod







PROVINCE OF  
SASKATCHEWAN

DEPARTMENT OF MUNICIPAL AFFAIRS  
A. W. MORRISON  
DEPUTY MINISTER

1965



SECOND MODIFICATION OF PROPOSALS FOR ORGANIZATION AND  
POPULATION DISTRIBUTION OF HEALTH REGIONS

Health Region	Headquarters	1965 Population	Number of Health Districts	Main Offices of Health Districts
North Eastern	St. Paul	49,634	3	St. Paul Lac La Piche Fort McMurray
Pembina	Edmonton	52,441	2	Edmonton Edson
Pig Country	Drumheller	53,081	2	Drumheller Stettler
South Eastern	Medicine Hat	62,745	2	Medicine Hat Taber
Pigeon Lake	Wetaskiwin	63,185	2	Wetaskiwin Leduc
Low Valley	Calgary	65,238	2	Calgary High River
Parkland	Red Deer	69,334	2	Red Deer Rocky Mountain House
Peace River	Grande Prairie	74,399	3	Grande Prairie High Prairie Peace River
Sturgeon	St. Albert	74,415	2	St. Albert Athabasca
Buffalo	Camrose	95,393	2	Camrose Vegreville
Oldman	Lethbridge	96,866	2	Lethbridge Fort Macleod





PROVINCE OF  
**ALBERTA**  
CANADA

DEPARTMENT OF MUNICIPAL AFFAIRS  
HON. A. J. HOOKE  
MINISTER

A. W. MORRISON  
DEPUTY MINISTER

1965



ROCKY MOUNTAINS FOREST RESERVE

METIS COLONIES

COMPILED AND DRAWN IN ACCORDANCE WITH SECTION 4 OF THE SURVEYS AND EXPROPRIATION ACT (R.S.A. 1955)

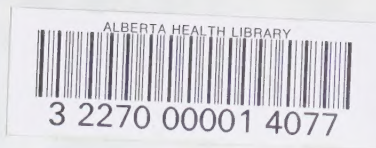
AT THE  
SURVEYS BRANCH, DEPARTMENT OF HIGHWAYS

C. W. YOUNGS  
DIRECTOR OF SURVEYS









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